

EPA United States Environmental Protection Agency Washington, DC 20460 Work Assignment						Work Assignment Number 1-46				
						<input type="checkbox"/> Other <input type="checkbox"/> Amendment Number:				
Contract Number EP-C-12-021			Contract Period 09/26/2012 To 09/25/2014 Base Option Period Number 1			Title of Work Assignment/SF Site Name Visioneering Meeting				
Contractor EASTERN RESEARCH GROUP, INC.					Specify Section and paragraph of Contract SOW See PWS					
Purpose: <input checked="" type="checkbox"/> Work Assignment <input type="checkbox"/> Work Assignment Close-Out <input type="checkbox"/> Work Assignment Amendment <input type="checkbox"/> Incremental Funding <input type="checkbox"/> Work Plan Approval						Period of Performance From 09/26/2013 To 09/25/2014				
Comments:										
<div style="display: flex; justify-content: space-between;"> <input type="checkbox"/> Superfund Accounting and Appropriations Data <input checked="" type="checkbox"/> Non-Superfund </div>										
Note: To report additional accounting and appropriations data use EPA Form 1900-69A.										
SFO (Max 2) <input type="checkbox"/>										
Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1										
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Authorized Work Assignment Ceiling										
Contract Period:		Cost/Fee:			LOE:					
09/26/2012 To 09/25/2014										
This Action:										
Total:										
Work Plan / Cost Estimate Approvals										
Contractor WP Dated:				Cost/Fee:			LOE:			
Cumulative Approved:				Cost/Fee:			LOE:			
Work Assignment Manager Name Anne Weinberg <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>							Branch/Mail Code: Phone Number 202-566-1217 FAX Number: 202-566-1331			
Project Officer Name Meghan Hessenauer <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>							Branch/Mail Code: Phone Number: 202-566-1040 FAX Number:			
Other Agency Official Name <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>							Branch/Mail Code: Phone Number: FAX Number:			
Contracting Official Name Brad Heath <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>							Branch/Mail Code: Phone Number: 513-487-2352 FAX Number:			

**Performance Work Statement
Contract EP-C-12-021
Work Assignment 1-46**

TITLE: Interagency Nutrient Challenge Visioneering Support

WORK ASSIGNMENT MANAGER (WAM):

Anne Weinberg
US EPA OW/OWOW
EPA West Building, Room 7417K
1200 Pennsylvania Avenue, NW
Washington, DC 20460
Phone: 202-566-1217 (M-R)
Cell: 301-351-9660 (F)
Email: weinberg.anne@epa.gov

PERIOD OF PERFORMANCE: September 26, 2013 through September 25, 2014

BACKGROUND

Excess nitrogen (N) and/or phosphorus (P) in waterways is a critical problem in the United States and around the world. Excess nutrients cause overgrowth of algae, leading to harmful algal blooms, hypoxia, drinking water contamination, and subsequent productivity and economic losses. Federal and state agencies and the private sector have been struggling to combat nutrient pollution for decades.

In an effort to catalyze technological advances and fresh solutions to issues of nutrient pollution in waterways, EPA in partnership with other organizations will work to develop a series of innovative prize competitions. Innovation prizes have proven transformative in addressing tough challenges faced by different generations, from the Longitude Prize solution for global ocean navigation to the recent development of commercial space flight. Prizes are especially effective in areas where science and technology advances have been made, but where these advances have not been coordinated across diverse disciplines to focus on a specific problem area.

For nutrient pollution, the initial federal role will be to coordinate across the suite of stakeholders and potential partners to identify nutrient pollution intervention opportunities and the state of the science for each, along with those opportunities that are most amenable to a prize format. To aid in this coordination and the development of future prizes, EPA will help to plan and organize an Office of Science and Technology Policy (OSTP)-sponsored Visioneering meeting. This meeting will convene a number of technical experts to discuss how to effectively use a prize format to address nutrient pollution in waterways, the logistics of which are discussed below.

PURPOSE OF THE VISIONEERING MEETING

Current federal engagement in the realm of nutrient pollution and management builds on the known interests and efforts of private sector philanthropists in addressing nutrient pollution, most notable of which are the development of a \$10M Florida Everglades Foundation phosphorus capture prize and a \$1M Tulane University Water Prize to mitigate nitrogen-driven hypoxia in the Gulf of Mexico.

In order to coordinate these efforts and identify additional areas for research and prizes, EPA will organize an OSTP-sponsored prize design Visioneering meeting. The Visioneering meeting will summarize gaps and opportunities in today's science, technology, and community-based solutions, moving toward the development of one or more nutrient prizes. This will be undertaken in collaboration with partners and stakeholders, and supported by experts in prize design. The Visioneering meeting will be held in Washington DC, will be a one day meeting and will include 15 – 25 experts, plus facilitators, with an emphasis on novel expertise and interest across the spectrum of technological and social challenge opportunities. Existing and potential future prize partners and philanthropic institutions will be encouraged to build on this opportunity as they advance their respective nutrient prizes. Federal and state agencies will be engaged to contribute technical expertise and facilities support.

The Visioneering meeting will serve to initiate and stimulate federal engagement in nutrient pollution prizes, with a view toward ongoing involvement in and support of existing activities, potential sponsorship of supplementary nutrient pollution research and/or prize opportunities, and opportunities for implementing results and broadening adoption to enhance impact.

SCOPE OF WORK

The Contractor shall liaise with EPA and InnoCentive (hereby referred to as "Prize Expert"), a challenge management company with expertise in competitive prize design, on the planning and execution of the Visioneering meeting. Specifically, the Contractor shall work with EPA and the Prize Expert to develop an agenda for the Visioneering meeting, regulate the overall participant mix and group dynamics, and integrate subject matter background into the Visioneering meeting in a way that informs but does not constrain the discussion. Following the Visioneering meeting, the Contractor shall also support the development of no more than three (3) challenges in the realm of nutrient management and/or removal. This will include the coordination of stakeholders and challenge funders, the provision of subject matter expertise, and the distribution of communication materials to both Agency staff and external partners. The primary tasks associated with this SOW are outlined below.

TASKS

1. Task 1- Program Management

The Contractor shall develop a work plan describing the necessary steps and estimated hours to complete each of the tasks included in this work assignment. The work plan shall also include a list of the key personnel to participate in the work assignment. Additionally, the

Contractor shall provide an estimate of all direct costs (i.e. computer costs, transcription, etc.) that are anticipated under this work assignment.

The Contractor shall prepare and deliver monthly progress reports to the Work Assignment Manager, Technical Lead, and Project Officer. These reports shall list, by task, the amount of work completed, and should include a table of hours by personnel for each task. The contractor shall inform the WAM, Technical Lead, and PO in writing when 50%, 75%, and 90% of the allocated hours and dollars have been expended.

TASK 1. – DELIVERABLES	Due Date
Work Plan	In accordance with contract requirements
Progress Reports	Monthly

2. Task 2 - Pre-Meeting:

- a. The Contractor shall, in consultation with the EPA WAM and Prize Expert, recommend a list of diverse experts for participation in the Visioneering meeting, from which a list of 15-25 experts will be chosen. All final decisions regarding invitees shall be done in consultation with the Prize Expert, EPA, and federal liaisons.
- b. The Contractor shall conduct phone interviews with the identified experts in advance of the Visioneering meeting. The content for the phone interviews shall be developed by the Contractor with input from the EPA WAM and Prize Expert, and the results from these interviews shall be compiled and shared with the interagency team in advance of the Visioneering meeting. The intent of the calls is to familiarize each of the experts with the purpose of the meeting, provide them with an opportunity to ask questions, learn about their priorities going into the meeting and identify any outstanding issues.
- c. Due to strict constraints on the number of Visioneering meeting attendees, the Contractor shall conduct additional phone interviews with other experts that, while not attending the meeting, may have valuable insight into the realm of nutrient pollution, management, and control. The Contractor shall compile the results of these interviews and share with the interagency team in advance of the Visioneering meeting.
- d. The Contractor shall initiate bi-weekly calls with the federal interagency work group on nutrient prizes coordinated by OSTP for planning, coordination and communication in advance of the Visioneering meeting. The calls will last 1 hour each, and the Contractor shall take notes and distribute them after the call. The Contractor shall supplement the work group with other non-federal partners as needed to optimize task completion, to be done in consultation with the EPA WAM and Prize Expert.
- e. The Contractor shall conduct 1 webinar with all experts selected by the interagency

group to attend the Visioneering meeting. The Contractor shall develop materials for the webinar, including but not limited to PowerPoint presentations and handouts. The webinar will last for 1 hour, and will serve to help orient attendees to the purpose of the Visioneering meeting and the interagency goals being addressed. Representatives from Federal agencies will participate in the calls. The Contractor shall handle the logistics of setting up and running the webinar, and shall summarize the results of the webinar and provide them to the EPA WAM.

- f. The Contractor shall, in advance of the meeting, prepare a summary (no longer than 15 pages) and annotated bibliography of major documents and roadmaps pertaining to the state of emerging and innovative art/science/technology for the management and removal of nutrients from multiple sources. The focus shall be on reactive nitrogen and mixed nitrogen and phosphorus sources, along with a brief summary of the Phosphorus Recovery Challenge already prepared for the Everglades Foundation by Innocentive. The Contractor shall also prepare a summary document of observations regarding the social issues that, where evident, form the backdrop for the roll-out of new ideas pertaining to nutrient pollution (as extracted from the interviews, webinars, and, where available, as embedded in documents reviewed for the annotated bibliography). In addition, the Contractor shall summarize significant expenditures made by the federal government on nutrient management/removal issues (if available). Documents discussing major international nutrient management/removal innovations should be included where easily available.
- g. The Contractor, with input from the EPA WAM, shall handle the logistics of the Visioneering meeting, including; securing the location, arranging travel and accommodation for invited experts in a manner that is consistent with federal travel guidelines, and distributing materials in advance of the meeting. The Contractor shall also serve as a participant in the Visioneering meeting.

3. Task 3 - Visioneering Meeting

The Contractor shall, in coordination with the Prize Expert and OSTP facility staff, provide general logistical support during the Visioneering meeting. Specific responsibilities may include, but are not limited to:

- Conference room setup and breakdown
- Check-in table staffing and name tag/table tent distribution
- Escorting guests to and from security entrances
- Coordination of lunch and morning and afternoon snacks
- Others as needed

The Contractor is expected to participate, as an observer, in all other Visioneering meeting activities.

4. Task 4 – Post-Meeting

The Contractor shall work with the EPA WAM and Prize Expert to support the development of up to three (3) challenges related to nutrient pollution management. Specific responsibilities will include:

- a. Scheduling and facilitating at least two (2) one-hour webinars post-meeting as part of the challenge rollout. These webinars shall focus on stakeholder and challenge funder engagement in challenge outcomes;
- b. Attending in-person meetings with stakeholders and challenge funders, the timing of which will be specified by the EPA WAM;
- c. Providing subject matter expertise, including ground-truthing all challenge ideas with experts/stakeholders, consulting relevant literature, and otherwise ensuring that all challenge ideas represent fruitful exploration areas in the field of nutrient management/removal, and;
- d. Preparing and distributing, with input from the EPA WAM, communication materials for use in the planning and completion of future nutrient challenge work as well as work in other related areas. This may include, but is not limited to, the development of a communication plan, fact sheets, and press releases.

APPROVAL FOR MEETING

The tasks outlined under this work assignment will include a Visioneering meeting that exceeds \$20,000 in overall costs. All required 5170 approvals have been received for this meeting.

QUALITY ASSURANCE

In order to ensure the quality of data collected under this statement of work, the Contractor shall adhere to the following quality assurance guidelines:

- a.) **Document collection and the preparation of summary documents:** The Contractor shall only consult peer-reviewed literature, government documents, and data directly collected during interviews, webinars, and phone calls with subject matter experts in the preparation of all summary documents. In any case where there is uncertainty surrounding the permissibility of a particular document or dataset, the Contractor shall work with EPA to assess that document/dataset on a case-by-case basis. Exceptions are not to be made at the Contractor's discretion.
- b.) **Selection of subject matter experts for meeting participation:** Subject matter experts selected for participation in the Visioneering meeting should have significant professional and/or research experience in one of the following fields; nutrient pollution, soil chemistry, groundwater hydrology, agriculture, environmental engineering, fertilizer production, crop science, social science (including anthropology), or any other field that may relate to solutions to the issue of nutrient

pollution in waterways.

XI. DELIVERABLES AND SCHEDULE

- 0. Workplan:** this document, not to exceed five (5) pages, shall describe the expected steps and estimated hours needed to complete each of the tasks outlined in this work assignment. The work plan shall also include a list of the key personnel that are expected to participate in each task. The final workplan will be due one week after the work assignment begins.
- 1. Expert participant list:** a master list of all external experts who have been chosen for participation in the Visioneering meeting. This list will be due to the EPA WAM two to three weeks in advance of the meeting.
- 2. Summary of calls with external experts:** this document, not to exceed ten (10) pages, will summarize the experts' priorities going into the meeting and identify any outstanding issues. The summary shall also include insights from interviews with those external experts not attending the Visioneering meeting. The summary will be due no more than ten (10) days after all calls are completed, and no less than one week in advance of the Visioneering meeting.
- 3. Pre-meeting webinar:** the contractor shall hold no more than one (1) webinar in advance of the Visioneering meeting. The webinar shall be completed no less than five (5) business days in advance of the meeting, with summaries due no more than two (2) days after webinar completion.
- 4. Technology summary and annotated bibliography:** this document, not to exceed fifteen (15) pages, will provide a comprehensive review of the state of emerging and innovative art/science/technology for the management and removal of nutrients from multiple sources. It will also summarize the social issues that form the backdrop for the roll-out of new ideas pertaining to nutrient pollution, as well as significant expenditures made by the federal government on nutrient management/removal issues. All components of this summary document are due no less than three (3) days in advance of the meeting.
- 5. Post-meeting webinars:** the contractor shall hold at least two (2) webinars following the Visioneering meeting. The timing of these webinars will be determined by the EPA WAM.
- 6. Meetings with stakeholders and challenge funders:** to be specified by the EPA WAM.
- 7. Subject matter expertise:** to be provided as needed and as requested by the EPA WAM.
- 8. Communication materials:** informational and outreach materials, including but not limited to, communication plans, fact sheets, one-pagers, and press releases, to be used in support of nutrient challenge and all related work. Completion is expected to follow the challenge release schedule, with specific due dates to be specified by the EPA WAM.

MANAGEMENT CONTROLS

Technical direction for this work assignment is provided by the work assignment statement of work and by the work plan developed by the Contractor to implement this work assignment (after it has been accepted and approved by the EPA Contracting Officer and by the Contractor's designated management representatives). Periodic meetings between the EPA WAM and Contractor work assignment managers are encouraged to discuss any questions that may arise

during performance or completion of this work assignment. At the EPA WAM's discretion, these meetings may occur via phone, formal teleconference or video conference. The Contractor shall document these meetings and submit copies of all correspondences to the WAM.

The Contractor shall meet with the EPA WAM to present and discuss the work plan for this work assignment before it is approved by the EPA CO.

Travel - EPA anticipates the need for non-local travel by the contractor employees and/or subcontractors to support the scope of this work assignment.

Confidential Business Information - The contractor shall, at all times, adhere to Confidential Business Information (CBI) procedures when handling industry information. The contractor shall manage all reports, documents, and other materials and all draft documents developed under this work assignment in accordance with the procedures set forth in the Office of Science and Technology Confidential Business Information (OST-CBI) Application Security Plan (June 10, 2003), or its successor approved plans.

Meetings - To avoid the perception that contractor personnel are EPA employees, contractor personnel shall be clearly identified as independent contractors of EPA when participating in events with outside parties or visiting field sites. NOTE: This Work Assignment has received authorization to proceed with the meeting exceeding \$20,000. (No single event under this Work Assignment is anticipated to exceed \$20,000. The Contractor shall immediately notify the EPA Contracting Officer, PO and WAM of any anticipated event involving support for a meeting, conference, workshop, symposium, retreat, seminar or training that may potentially incur \$20,000 or more in cost during performance. Conference expenses are all direct and indirect costs paid by the government and include any associated authorized travel and per diem expenses, room charges for official business, audiovisual use, light refreshments, registration fees, ground transportation and other expenses as defined by the Federal Travel Regulations. All outlays for conference preparation should be included, but the federal employee time for conference preparation should not be included. After notifying EPA of the potential to reach this threshold, the Contractor shall not proceed with the task(s) until authorized to do so by the Contracting Officer.)

Limitation of Contractor Activities - The contractor shall submit drafts of all deliverables to the Work Assignment Manager (WAM) for review prior to submission of the final product. The contractor shall incorporate all WAM comments into all final deliverables, unless otherwise agreed upon by the WAM. The contractor shall adhere to all applicable EPA management control procedures as implemented by the Contracting Officer (CO), Project Officer (PO), and WAM.

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Contractor EASTERN RESEARCH GROUP, INC.					Specify Section and paragraph of Contract SOW See PWS					
Purpose: <input checked="" type="checkbox"/> Work Assignment <input type="checkbox"/> Work Assignment Close-Out <input type="checkbox"/> Work Assignment Amendment <input type="checkbox"/> Incremental Funding <input checked="" type="checkbox"/> Work Plan Approval						Period of Performance From 09/26/2013 To 09/25/2014				
Comments: This Work Plan Approval incorporates a funding ceiling of \$65,000.00. The contractor shall not exceed this funding ceiling without written authorization from the Contracting Officer.										
<input type="checkbox"/> Superfund Accounting and Appropriations Data <input checked="" type="checkbox"/> Non-Superfund										
Note: To report additional accounting and appropriations data use EPA Form 1900-69A.										
SFO (Max 2) <input type="checkbox"/>										
Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
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Authorized Work Assignment Ceiling										
Contract Period:		Cost/Fee: \$0.00				LOE: 0				
09/26/2012 To 09/25/2014										
This Action:		\$85,445.00				592				
Total:		\$85,445.00				592				
Work Plan / Cost Estimate Approvals										
Contractor WP Dated: 11/05/2013		Cost/Fee: \$85,445.00				LOE: 592				
Cumulative Approved:		Cost/Fee: \$85,445.00				LOE: 592				
Work Assignment Manager Name Anne Weinberg						Branch/Mail Code:				
_____ (Signature) (Date)						Phone Number 202-566-1217				
						FAX Number: 202-566-1331				
Project Officer Name Meghan Hessenauer						Branch/Mail Code:				
_____ (Signature) (Date)						Phone Number: 202-566-1040				
						FAX Number:				
Other Agency Official Name						Branch/Mail Code:				
_____ (Signature) (Date)						Phone Number:				
						FAX Number:				
Contracting Official Name Brad Heath						Branch/Mail Code:				
_____ (Signature) (Date)						Phone Number: 513-487-2352				
						FAX Number:				

EPA United States Environmental Protection Agency Washington, DC 20460 Work Assignment						Work Assignment Number 1-46				
						<input type="checkbox"/> Other <input checked="" type="checkbox"/> Amendment Number: 000001				
Contract Number EP-C-12-021			Contract Period 09/26/2012 To 09/25/2014			Title of Work Assignment/SF Site Name				
			Base Option Period Number 1			Visioneering Meeting				
Contractor EASTERN RESEARCH GROUP, INC.					Specify Section and paragraph of Contract SOW N/A					
Purpose: <input type="checkbox"/> Work Assignment <input type="checkbox"/> Work Assignment Close-Out <input checked="" type="checkbox"/> Work Assignment Amendment <input type="checkbox"/> Incremental Funding <input type="checkbox"/> Work Plan Approval					Period of Performance From 09/26/2013 To 09/25/2014					
Comments: The purpose of this Amendment 1 is to increase the funding ceiling for this work assignment from \$65,000.00 to \$85,445.00. This work assignment is now fully funded.										
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Contractor WP Dated:				Cost/Fee:				LOE:		
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						<input type="checkbox"/> Other <input checked="" type="checkbox"/> Amendment Number: 000002				
Contract Number EP-C-12-021			Contract Period 09/26/2012 To 09/25/2014			Title of Work Assignment/SF Site Name				
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Comments:										
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This Action:										
Total:										
Work Plan / Cost Estimate Approvals										
Contractor WP Dated:				Cost/Fee:			LOE:			
Cumulative Approved:				Cost/Fee:			LOE:			
Work Assignment Manager Name Lael Butler							Branch/Mail Code:			
_____ (Signature) (Date)							Phone Number 228-688-1576			
							FAX Number:			
Project Officer Name Meghan Hessenauer							Branch/Mail Code:			
_____ (Signature) (Date)							Phone Number: 202-566-1040			
							FAX Number:			
Other Agency Official Name							Branch/Mail Code:			
_____ (Signature) (Date)							Phone Number:			
							FAX Number:			
Contracting Official Name Brad Heath							Branch/Mail Code:			
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							FAX Number:			

**Performance Work Statement
Contract EP-C-12-021
Work Assignment 1-46
Amendment 2**

TITLE: Interagency Nutrient Challenge Visioneering Support

WORK ASSIGNMENT MANAGER (WAM):

Lael H. Butler
Environmental Scientist
US EPA Gulf of Mexico Program
Mailcode: EPA/GMPO
Building 1100, Room 232
Stennis Space Center, MS 39529

Work Phone: 228.688.1576
Fax: 228.688.2709
Mobile: 228.216.9029
E-mail: butler.lael@epa.gov

PERIOD OF PERFORMANCE: 6/13/2014 through 9/25/2014

PURPOSE: The purpose of this amendment is to replace the existing WAM, to revise Task 4, and to add Task 5 along with an updated deliverables schedule.

REVISE Section 4 of the PWS to read as follows:

Task 4 - Post Visioneering Meeting

Subtask 1. Ongoing Meeting Support

- a. The Contractor shall continue to schedule and assist in the planning of calls for Federal partners and the broader workgroup on an approximately every two week basis. Contractor support is needed to coordinate with EPA; send out notices to attendees to schedule the calls; work with EPA to develop draft agendas and participate on the calls.
- b. The Contractor shall provide assistance with the development of a PowerPoint presentation for senior federal agency principals, which is tentatively scheduled for July, 2014. A brief annotated summary document shall be drafted to accompany the PowerPoint as a handout for the meeting.

ADD a new Section 5 of the PWS to read as follows:

Task 5 - Challenge to Accelerate Sensor Development

Subtask 1. Support challenge development

The Contractor shall work with the EPA WAM to support the development of the nutrient sensor challenge. Specific responsibilities will include:

- a. Preparing and distributing, with input from the EPA WAM, communication materials for use in the planning and completion of a nutrient sensor challenge. This may include, but is not limited to, the development of a draft schedule and communication plan
- b. Scheduling and facilitating up to two (2) one-hour webinars post-meeting as part of the challenge rollout.

Subtask 2. Web content support

The Contractor shall assist ORD in developing a web page to support the Nutrient Sensor Challenge. This will include developing the content that will appear on the web page, which may include:

- Introduction/Problem statement
- Goals of the challenge
- Language introducing PPT slides summarizing the challenge [linked]
- Frequently Asked Questions
- Overview of market demand
- Opportunities for users and manufacturers [with links to letters of support/intent for users and link to respond to challenge for manufacturers]
- Language introducing the performance specification [linked]

The Contractor shall conceptualize and present (in a Word or PowerPoint document) ideas for layout and other elements beside text (photos, infographics, social media sharing tools, calendar, mailing list sign-up). In developing these ideas the Contractor shall consult with EPA web experts to ensure compatibility with EPA web requirements and website requirements for Drupal.

Subtask 3. EPA meeting support

The Contractor shall work with the EPA WAM to support a meeting hosted by the Alliance for Coastal Technologies related to the nutrient sensor challenge. Specific responsibilities include attending a two day meeting that will be held in Washington DC September 17 and 18. The contractor will take notes at the meeting and provide EPA with a draft document summarizing the meeting

ADD following additional deliverables/schedule to PWS:

XI. DELIVERABLES SCHEDULE

The Contractor shall develop a new work plan within two weeks of receiving this Amendment.

The Contractor shall participate in periodic conference calls (not less than bi-weekly) to discuss progress and issues with the meeting team. The notes from the meeting will be provided to the WAM within two weeks of the meeting.

Task 5 – Subtask 1. The contractor shall attend a meeting American University meeting addressing nutrient sensor technology on June 24, take notes and provide a summary of key discussion and decisions. The contractor will provide the summary within 10 days of the meeting.

Task 5 – Subtask 1. Support Challenge Development. The contractor shall provide a draft plan supporting the development and launch of the Nutrient Sensor Challenge. The draft plan will address scheduling, including a marketing and communication strategy by July 15.

Task 5 Subtask 3. The contractor will attend the ACT meeting on Sept 17 and 18 and provide the WAM with summary of meeting notes within 3 days of the meeting.

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Comments: This Work Plan Approval incorporates Amendment 2.										
<input type="checkbox"/> Superfund Accounting and Appropriations Data <input checked="" type="checkbox"/> Non-Superfund										
Note: To report additional accounting and appropriations data use EPA Form 1900-69A.										
SFO (Max 2) <input type="checkbox"/>										
Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1										
2										
3										
4										
5										
Authorized Work Assignment Ceiling										
Contract Period:		Cost/Fee:		\$85,445.00		LOE:		592		
09/26/2012 To 09/25/2014										
This Action:				\$34,949.00				288		
Total:				\$120,394.00				880		
Work Plan / Cost Estimate Approvals										
Contractor WP Dated:		07/02/2014		Cost/Fee:		\$34,949.00		LOE: 288		
Cumulative Approved:				Cost/Fee:		\$120,394.00		LOE: 880		
Work Assignment Manager Name Lael Butler						Branch/Mail Code:				
_____ (Signature) (Date)						Phone Number 228-688-1576				
						FAX Number:				
Project Officer Name Meghan Hessenauer						Branch/Mail Code:				
_____ (Signature) (Date)						Phone Number: 202-566-1040				
						FAX Number:				
Other Agency Official Name						Branch/Mail Code:				
_____ (Signature) (Date)						Phone Number:				
						FAX Number:				
Contracting Official Name Brad Heath						Branch/Mail Code:				
_____ (Signature) (Date)						Phone Number: 513-487-2352				
						FAX Number:				

EPA United States Environmental Protection Agency Washington, DC 20460 Work Assignment						Work Assignment Number 1-47			
						<input type="checkbox"/> Other <input type="checkbox"/> Amendment Number:			
Contract Number EP-C-12-021		Contract Period 09/26/2012 To 09/25/2014 Base Option Period Number 1		Title of Work Assignment/SF Site Name Climate Ready Estuaries					
Contractor EASTERN RESEARCH GROUP, INC.				Specify Section and paragraph of Contract SOW See PWS					
Purpose: <input checked="" type="checkbox"/> Work Assignment <input type="checkbox"/> Work Assignment Close-Out <input type="checkbox"/> Work Assignment Amendment <input type="checkbox"/> Incremental Funding <input type="checkbox"/> Work Plan Approval						Period of Performance From 12/17/2013 To 09/25/2014			
Comments:									
<input type="checkbox"/> Superfund Accounting and Appropriations Data <input checked="" type="checkbox"/> Non-Superfund									
Note: To report additional accounting and appropriations data use EPA Form 1900-69A.									
SFO <input type="checkbox"/> (Max 2)									
Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars) (Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1									
2									
3									
4									
5									
Authorized Work Assignment Ceiling									
Contract Period:		Cost/Fee:		LOE:					
09/26/2012 To 09/25/2014									
This Action:									
Total:									
Work Plan / Cost Estimate Approvals									
Contractor WP Dated:				Cost/Fee:		LOE:			
Cumulative Approved:				Cost/Fee:		LOE:			
Work Assignment Manager Name Michael Craghan <div style="border-bottom: 1px solid black; width: 100%;"></div> <div style="display: flex; justify-content: space-between; font-size: small;"> (Signature) (Date) </div>						Branch/Mail Code: Phone Number 202-566-1946 FAX Number:			
Project Officer Name Meghan Hessenauer <div style="border-bottom: 1px solid black; width: 100%;"></div> <div style="display: flex; justify-content: space-between; font-size: small;"> (Signature) (Date) </div>						Branch/Mail Code: Phone Number: 202-566-1040 FAX Number:			
Other Agency Official Name <div style="border-bottom: 1px solid black; width: 100%;"></div> <div style="display: flex; justify-content: space-between; font-size: small;"> (Signature) (Date) </div>						Branch/Mail Code: Phone Number: FAX Number:			
Contracting Official Name Brad Heath <div style="border-bottom: 1px solid black; width: 100%;"></div> <div style="display: flex; justify-content: space-between; font-size: small;"> (Signature) (Date) </div>						Branch/Mail Code: Phone Number: 513-487-2352 FAX Number:			

**Performance Work Statement
Contract EP-C-12-021
Work Assignment 1-47**

Title: Technical Documents for Climate Ready Estuaries 2013

Work Assignment Manager:

Michael Craghan, Ph.D.
Oceans and Coastal Protection Division
OW/OWOW/OCPD/CMB
US Mail: 1200 Pennsylvania Avenue NW — 4504T
Physical: 1301 Constitution Avenue NW — 7214
Washington, DC 20460
Phone: 202-566-1946
Email: craghan.michael@epa.gov

Period of Performance: December 17, 2013 through September 25, 2014

Summary:

The Climate Ready Estuaries program works with the National Estuary Programs and the coastal management community to: (1) assess climate change vulnerabilities, (2) develop and implement adaptation strategies, and (3) engage and educate stakeholders. CRE shares NEP examples to help other coastal managers, and provides technical guidance and assistance about climate change adaptation in support of Clean Water Act goals. More information about the program is here: <http://www.epa.gov/cre/>

Three publications will be produced under this work assignment. EPA will supply all written content and graphics, as well as initial layouts (in MS Word). The Contractor will use that information to create three documents that will each be published online and be prepared for printing on paper.

A. Climate Ready Estuaries Adaptation Planning Workbook
—booklet; approximately 140, 8.5"×11" pages

B. Lessons Learned from the Climate Ready Estuaries Program: Southeast U.S.
—leaflet; four 8.5"×11" pages (i.e. 2 sides of one 11"×17" sheet)

C. Synthesis of Adaptation Options for Warming Waters
—booklet; approximately 12, 8.5"×11" pages

Quality Assurance:

Quality Assurance (QA) is an important component of EPA's work to assure that minimum quality standards are attained. The Contractor shall adhere to the Contract's Quality Management Plan (QMP) and provide a brief Quality Control Plan in its Work Plan and QA reports in monthly progress reports. The Contractor shall follow and provide its Standard Operating Procedures for document preparation as an attachment to the workplan.

Background:

The EPA publication process includes numerous reviews and approvals. The duration of those reviews as well as their outcomes cannot be known ahead of time. The documents to be prepared under this work assignment are similar to other documents that have already been published so there are precedents for what is to be done. In all cases managers have already seen draft products. Wholesale changes are not expected from the document review process.

All documents must meet requirements (Section 508, and metadata) for publication on the EPA website:

GSA 508 Tutorials, Guidance, Checklists
<http://www.gsa.gov/portal/content/103565>

Required Metadata for PDF Documents
<http://www2.epa.gov/webguide/required-metadata-pdf-documents>

Description of Tasks:

TASK 1. Development of a work plan and cost estimate

The Contractor shall develop a work plan describing the necessary steps and estimated hours and costs to complete each of the four tasks specified in this work assignment. The work plan shall also identify all of the key personnel participating in this work assignment. The Contractor shall also include a brief quality control plan and the Contractor shall follow and provide its Standard Operating Procedures (SOP) for document preparation as an attachment to the workplan. The EPA WAM must accept the SOP in the Work Plan.

A separate cost and hours estimate shall be provided for each of Tasks 1–4.

Table 1: Task 1 Deliverables

Task	Final Deliverable	Time for completion
1. The Contractor shall develop a work plan and cost estimate.	Work plan and cost estimate.	In accordance with contract requirements.

TASK 2. Climate Ready Estuaries Adaptation Planning Workbook

Booklet description:

- 1) The workbook is aimed at professional environmental managers and describes a methodology for creating climate change vulnerability assessments and action plans.
- 2) The document will be approximately 140-pages at 8.5"×11" and will consist of covers, table of contents, preface, introduction, 11 steps/chapters, and various appendices.
- 3) The latest draft of the document (*Being Prepared for Climate Change: A Workbook for Developing Risk-Based Adaptation Plans*) is available through the CRE website (<http://water.epa.gov/type/oceb/cre/news.cfm>). This is not the version that the contractor should convert to publication format; however it is the best available representation of what EPA will deliver for conversion to a publication quality document.

EPA program staff will prepare all written content and will submit the digital photographs or graphics to support document production. EPA program staff will prepare an initial document layout in MS Word to inform the layout of the publication quality document which the contractor will create. Whereas the selection, sizing or positioning of margins, typefaces, sidebars, graphics or photographs may lead to some departure from EPA's initial layout, the order in which the main document content is presented should not change.

EPA may have prepared graphics using PowerPoint or MS Word. If necessary, the contractor shall recreate them in a publication quality graphical format.

The contractor will prepare a style sheet and a sample chapter mockup that contains all the style sheet elements for approval before laying out the workbook.

CRE publications use the Century Gothic typeface and that (or a virtually identical equivalent) should be used for general body text. The booklet should have the less formal appearance of a workbook.

The *CRE Synthesis of Adaptation Options for Coastal Areas* should be the first source consulted to guide decisions about styling document elements.

EPA. *Climate Ready Estuaries Synthesis of Adaptation Options for Coastal Areas*
http://water.epa.gov/type/oceb/cre/upload/CRE_Synthesis_1-09.pdf

Other documents that could inform document style are:

CDC. *Workbook for Designing, Implementing and Evaluating a Sharps Injury Prevention Program*.
http://www.cdc.gov/sharpsafety/pdf/sharpsworkbook_2008.pdf

FEMA. *Long-Term Community Recovery Planning Process A Self-Help Guide*.
<http://www.fema.gov/pdf/rebuild/ltrc/selfhelp.pdf>

During this document development phase, if the Contractor requires clarifications or additional technical information, the Contractor and WAM will discuss via emails, phone calls or face-to-

face local meetings in Arlington, VA or Washington, DC (if needed) to clarify any unclear and/or informational gaps. If during the Contractor and WAM discussions, the Contractor needs technical direction (TD) from the WAM, the WAM will provide this written TD to the Contractor (with a copy to the CO).

EPA program staff will hand over 100% of the editorial content as soon as the response to peer review is complete and agency officials approve the workbook for dissemination. This is expected in February–April 2014.

Table 2: Task 2 Deliverables

Contractor Task	Final Deliverable	Time for completion
Create a style sheet for the document, and lay out a sample chapter mockup which illustrates how all the components will appear, for concept approval.	a. A review .pdf of the style sheet. b. A review .pdf version of a mockup chapter.	Within 4 weeks of notice of award.
Receive all editorial content from EPA.	n/a	Some can be provided immediately; 100% is planned for March 2014.
Create a full document layout for agency review using the approved style sheet.	A 1st review .pdf version of the full document.	Within 4 weeks of receiving all editorial content.
Respond to agency comments, if any.	A 2nd review .pdf version of the full document	Within 2 weeks of receiving agency comments on the 1st version
After final agency approval, prepare document deliverables.	a. Section 508-compliant .pdf of the full document with all required EPA metadata, ready for posting on the CRE website. b. DVD or similar physical copy of electronic files to support high quality document printing.	a. Final Section 508-compliant .pdf within 2 weeks of agency approval on the 2nd version. b. Files for printing within 2 weeks of .pdf delivery.

TASK 3. Lessons Learned from the Climate Ready Estuaries Program: Southeast U.S.

Leaflet description:

- 1) The leaflet will highlight lessons-learned from climate change adaptation projects that CRE supported with National Estuary Program partners in the southeast U.S.
- 2) The leaflet will be a 4-page 8.5"×11" sized document (i.e. a publication formed from content on both sides of one 11"×17" printed sheet).
- 3) All content is available upon request to provide a fuller understanding of what the work will require. Further, the leaflet will highly resemble CRE's New England lessons-learned document that is available at:
http://water.epa.gov/type/oceb/cre/upload/CRE_LessonsLearned_NE_508.pdf

EPA program staff will prepare all written content and will submit digital photographs or graphics to support document production. EPA program staff will prepare an initial document layout in MS Word to inform the layout of the publication quality document which the contractor will create. Whereas the selection, sizing or positioning of margins, typefaces, sidebars, graphics or photographs may lead to some departure from EPA's initial layout, the order in which the main document content is presented should not change.

CRE publications use the Century Gothic typeface and that (or a virtually identical equivalent) should be used for general body text.

During this document development phase, if the Contractor requires clarifications or additional technical information, the Contractor and WAM will discuss via emails, phone calls or face-to-face local meetings in Arlington, VA or Washington, DC (if needed) to clarify any unclear and/or informational gaps. If during the Contractor and WAM discussions, the Contractor needs technical direction (TD) from the WAM, the WAM will provide this written TD to the Contractor (with a copy to the CO).

Production files for the existing New England publication (referenced above) are available if requested. EPA program staff is able to provide all content for Task 3 to the contractor as soon as requested.

Table 3: Task 3 Deliverables

Contractor Task	Final Deliverable	Time for completion
Draft document	A 1st review .pdf version of the document	Within 4 weeks of receiving all editorial content.
Responses to agency review	A 2nd review .pdf version of the document	Within 2 weeks of receiving agency comments on the 1st version

After final agency approval, prepare document deliverables	<p>a. Section 508-compliant .pdf document with all required EPA metadata, four 8.5"×11" pages, ready for posting on the CRE website.</p> <p>b. .pdf files to support high quality document printing of four 8.5"×11" pages</p> <p>c. .pdf files to support high quality document printing of two 11"×17" pages (spreads)</p> <p>d. DVD or similar physical copy of electronic files to support high quality document printing.</p>	<p>a. Final Section 508-compliant .pdf within 2 weeks of agency approval on the 2nd version.</p> <p>b. Files for printing within 2 weeks of .pdf delivery.</p>
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TASK 4. Synthesis of Adaptation Options for Warming Waters

Booklet description:

- 1) This document is intended to collect best practices for adapting to warming water temperatures as climate changes. The intended audience is people who will select, approve, design, or implement these techniques.
- 2) The document will be 12, 8.5"×11" pages (including covers).
- 3) The latest draft of the document is available upon request to provide a fuller understanding of what the work will require. This is not the version that the contractor should convert to publication format; however it is the best available representation of what EPA will deliver for conversion to a publication-quality document.

EPA program staff will prepare all written content and will submit digital photographs or graphics to support document production. EPA program staff will prepare an initial document layout in MS Word to inform the layout of the publication quality document which the contractor will create. Whereas the selection, sizing or positioning of margins, typefaces, sidebars, graphics or photographs may lead to some departure from EPA's initial layout, the order in which the main document content is presented should not change.

CRE publications use the Century Gothic typeface and that (or a virtually identical equivalent) should be used for general body text.

The initial document layout includes rough concepts for two illustrations that the contractor will translate into high quality illustrations which depict the practices that are described in the booklet.

During this document development phase, if the Contractor requires clarifications or additional technical information, the Contractor and WAM will discuss via emails, phone calls or face-to-

face local meetings in Arlington, VA or Washington, DC (if needed) to clarify any unclear and/or informational gaps. If during the Contractor and WAM discussions, the Contractor needs technical direction (TD) from the WAM, the WAM will provide this written TD to the Contractor (with a copy to the CO).

EPA program staff intends to provide all content to the contractor in the last quarter of 2014.

Table 4: Task 4 Deliverables

Contractor Task	Final Deliverable	Time for completion
Draft document	A 1st review .pdf version of the document	Within 6 weeks of receiving all editorial content.
Responses to agency review	A 2nd review .pdf version of the document	Within 2 weeks of receiving agency comments on the 1st version
after final agency approval, prepare document deliverables	<p>a. Section 508-compliant .pdf of the full document with all required EPA metadata, ready for posting on the CRE website.</p> <p>b. DVD or similar physical copy of electronic files to support high quality document printing.</p>	<p>a. Final Section 508-compliant .pdf within 2 weeks of agency approval on the 2nd version.</p> <p>b. Files for printing within 2 weeks of .pdf delivery.</p>

General Work Assignment Requirements:

Contractor Requirements: The Contractor shall provide electronic copies of the monthly progress reports to both the EPA Work Assignment Manager (WAM) and the Project Officer. Each progress report shall describe the technical progress and expenditures for the same time period as the corresponding invoice. The reports shall list by task the amount of work completed, and shall include a table of hours expended by personnel for each task. The monthly progress reports shall include a report of QA activities. The monthly progress reports shall also identify any problems or difficulties encountered, including with QA.

The Contractor shall submit drafts of all deliverables to the EPA Work Assignment Manager (WAM) for review, prior to submission of the final product. The Contractor shall incorporate all EPA WAM comments into the final deliverables, unless otherwise agreed to by the EPA WAM. The Contractor shall adhere to all applicable EPA management control procedures as implemented by the EPA Contracting Officer, the Project Officer, and the WAM.

Compliance with Section 508 Requirements: Section 508 of the Rehabilitation Act mandates that all Federal departments and agencies make electronic and information technology accessible to individuals with disabilities. This includes all individuals with disabilities wishing to access

Federal information. EPA is committed to making every possible effort to ensure that all electronic and information technology developed, procured, maintained, or used by EPA is accessible to all persons with disabilities. Consequently, according to the contract clause “EPAAR 1552.2119-79: Compliance with EPA Policies for Information Resources Management”, all deliverables submitted by the Contractor shall be compliant with the Section 508 requirements.

Identification as Contracting Staff: To avoid the perception that Contractor personnel are EPA employees, all Contractor personnel shall be clearly identified as independent contractors of EPA when participating in events with any outside parties or the public. When speaking with the public, the Contractor shall refer all interpretations of policy to the EPA WAM.

Travel: Non-local travel is not required.

EPA United States Environmental Protection Agency Washington, DC 20460 Work Assignment						Work Assignment Number 1-47				
						<input type="checkbox"/> Other <input type="checkbox"/> Amendment Number:				
Contract Number EP-C-12-021			Contract Period 09/26/2012 To 09/25/2014 Base Option Period Number 1			Title of Work Assignment/SF Site Name Climate Ready Estuaries				
Contractor EASTERN RESEARCH GROUP, INC.					Specify Section and paragraph of Contract SOW See PWS					
Purpose: <input checked="" type="checkbox"/> Work Assignment <input type="checkbox"/> Work Assignment Close-Out <input type="checkbox"/> Work Assignment Amendment <input type="checkbox"/> Incremental Funding <input checked="" type="checkbox"/> Work Plan Approval						Period of Performance From 12/17/2013 To 09/25/2014				
Comments: This Work Plan Approval incorporates a funding ceiling of \$20,000.00. The contractor shall not exceed this funding ceiling without written authorization from the Contracting Officer.										
<input type="checkbox"/> Superfund Accounting and Appropriations Data <input checked="" type="checkbox"/> Non-Superfund										
Note: To report additional accounting and appropriations data use EPA Form 1900-69A.										
SFO (Max 2) <input type="checkbox"/>										
Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1										
2										
3										
4										
5										
Authorized Work Assignment Ceiling										
Contract Period:		Cost/Fee: \$0.00				LOE: 0				
09/26/2012 To 09/25/2014										
This Action:		\$21,709.00				278				
Total:		\$21,709.00				278				
Work Plan / Cost Estimate Approvals										
Contractor WP Dated: 01/15/2014		Cost/Fee: \$21,709.00				LOE: 278				
Cumulative Approved:		Cost/Fee: \$21,709.00				LOE: 278				
Work Assignment Manager Name Michael Craghan <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>						Branch/Mail Code: Phone Number 202-566-1946 FAX Number:				
Project Officer Name Meghan Hessenauer <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>						Branch/Mail Code: Phone Number: 202-566-1040 FAX Number:				
Other Agency Official Name <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>						Branch/Mail Code: Phone Number: FAX Number:				
Contracting Official Name Brad Heath <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>						Branch/Mail Code: Phone Number: 513-487-2352 FAX Number:				

Work Assignment Form. (WebForms v1.0)

EPA United States Environmental Protection Agency Washington, DC 20460 Work Assignment						Work Assignment Number 1-47				
						<input type="checkbox"/> Other <input checked="" type="checkbox"/> Amendment Number: 000002				
Contract Number EP-C-12-021			Contract Period 09/26/2012 To 09/25/2015			Title of Work Assignment/SF Site Name				
			Base Option Period Number 1			Climate Ready Estuaries				
Contractor EASTERN RESEARCH GROUP, INC.					Specify Section and paragraph of Contract SOW See PWS					
Purpose: <input type="checkbox"/> Work Assignment <input type="checkbox"/> Work Assignment Close-Out <input checked="" type="checkbox"/> Work Assignment Amendment <input type="checkbox"/> Incremental Funding <input type="checkbox"/> Work Plan Approval					Period of Performance From 08/21/2014 To 09/25/2014					
Comments:										
<input type="checkbox"/> Superfund Accounting and Appropriations Data <input checked="" type="checkbox"/> Non-Superfund										
Note: To report additional accounting and appropriations data use EPA Form 1900-69A.										
SFO (Max 2) <input type="checkbox"/>										
Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1										
2										
3										
4										
5										
Authorized Work Assignment Ceiling										
Contract Period:		Cost/Fee:			LOE:					
09/26/2012 To 09/25/2015										
This Action:										
Total:										
Work Plan / Cost Estimate Approvals										
Contractor WP Dated:				Cost/Fee:			LOE:			
Cumulative Approved:				Cost/Fee:			LOE:			
Work Assignment Manager Name Michael Craghan							Branch/Mail Code:			
_____ (Signature) (Date)							Phone Number 202-566-1946			
							FAX Number:			
Project Officer Name Meghan Hessenauer							Branch/Mail Code:			
_____ (Signature) (Date)							Phone Number: 202-566-1040			
							FAX Number:			
Other Agency Official Name							Branch/Mail Code:			
_____ (Signature) (Date)							Phone Number:			
							FAX Number:			
Contracting Official Name Brad Heath							Branch/Mail Code:			
_____ (Signature) (Date)							Phone Number: 513-487-2352			
							FAX Number:			

**Performance Work Statement
Contract EP-C-12-021
Work Assignment 1-47
Amendment 2**

Title: Technical Documents for Climate Ready Estuaries 2013

Work Assignment Manager (WAM):

Michael Craghan, Ph.D.
Oceans and Coastal Protection Division
OW/OWOW/OCPC/CMB
US Mail: 1200 Pennsylvania Avenue NW — 4504T
Physical: 1301 Constitution Avenue NW — 7214
Washington, DC 20460
Phone: 202-566-1946
Email: craghan.michael@epa.gov

Period of Performance: August 21, 2014 through September 25, 2014

Purpose: I am requesting an increased level of effort on work assignment 1-47. Since January, EPA has complicated the work, and I no longer think ERG can complete Task 2 of WA 1-47 for the amount of their proposal.

I want ERG to do the same thing we originally asked them to do. To take our draft workbook from us and turn it into a professionally prepared, publication ready document. The written description of the work does not need to change.

The work on Task 2—which has yet to be delivered to ERG—has gotten more complex since January. Overall the workbook is the same product with about the same length, but EPA management review of the final document has led to new changes in the number and complexity of graphics and further questions have been raised about technical style. Further, by coincidence one EPA manager reviewing the document is colorblind, and thus he fortunately uncovered an accessibility problem that now needs to be accommodated before the document should be published. EPA managers have requested that better explanatory diagrams and editing be provided for the document. This is now ready to turn over to ERG, but represents a small increase in the work they would need to do on Task 2.

EPA United States Environmental Protection Agency Washington, DC 20460 Work Assignment						Work Assignment Number 1-50				
						<input type="checkbox"/> Other <input type="checkbox"/> Amendment Number:				
Contract Number EP-C-12-021			Contract Period 09/26/2012 To 09/25/2014 Base Option Period Number 1			Title of Work Assignment/SF Site Name Trash Free Waters				
Contractor EASTERN RESEARCH GROUP, INC.					Specify Section and paragraph of Contract SOW See PWS					
Purpose: <input checked="" type="checkbox"/> Work Assignment <input type="checkbox"/> Work Assignment Close-Out <input type="checkbox"/> Work Assignment Amendment <input type="checkbox"/> Incremental Funding <input type="checkbox"/> Work Plan Approval						Period of Performance From 09/26/2013 To 02/28/2014				
Comments:										
<div style="display: flex; justify-content: space-between;"> <input type="checkbox"/> Superfund Accounting and Appropriations Data <input checked="" type="checkbox"/> Non-Superfund </div>										
Note: To report additional accounting and appropriations data use EPA Form 1900-69A.										
SFO (Max 2) <input type="checkbox"/>										
Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1										
2										
3										
4										
5										
Authorized Work Assignment Ceiling										
Contract Period:		Cost/Fee:			LOE:					
09/26/2012 To 09/25/2014										
This Action:										
Total:										
Work Plan / Cost Estimate Approvals										
Contractor WP Dated:				Cost/Fee:			LOE:			
Cumulative Approved:				Cost/Fee:			LOE:			
Work Assignment Manager Name Robert Benson <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>							Branch/Mail Code: Phone Number 202-566-2954 FAX Number:			
Project Officer Name Meghan Hessenauer <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>							Branch/Mail Code: Phone Number: 202-566-1040 FAX Number:			
Other Agency Official Name <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>							Branch/Mail Code: Phone Number: FAX Number:			
Contracting Official Name Brad Heath <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>							Branch/Mail Code: Phone Number: 513-487-2352 FAX Number:			

**Performance Work Statement
Contract EP-C-12-021
Work Assignment 1-50**

1. **Title:** Analysis of the Societal Costs of Managing Trash and Debris in the Aquatic Environment

2. **Contracting Officer's Representative (COR):**

Robert Benson
Marine Pollution Control Branch/Oceans and Coastal Protection Division/
Office of Wetlands, Oceans and Watersheds (OWOW)/ U.S. EPA Office of Water
1200 Pennsylvania Avenue, NW (MC 4504-T)
Washington, DC 20460
Phone: 202-566-2954
E-Mail: benson.robert@epa.gov

3. **Period of Performance:** September 26, 2013 to February 28, 2014

4. **Background:** Among the many water quality issues that EPA addresses is the problem of trash, litter, and debris that enters the aquatic environment. Trash has become a pervasive problem for oceans, coasts, and inland watersheds, causing aesthetic blight, but also ecological impacts and possibly human health effects as well. The costs of dealing with aquatic trash, in terms of clean-up cost and the economic impacts on local economies, can be severe.

Approximately 80% of aquatic trash comes from land-based sources. Trash on land has numerous pathways to aquatic ecosystems. Plastic is estimated to make up 60-80% of this waste stream. Given the land-based origins of the trash problem, EPA has developed a new program called Trash Free Waters (TFW). This program has been designed with a strong emphasis on helping states and localities reduce the volume of trash and debris that enters both freshwater and coastal ecosystems.

The TFW program is intended to support trash prevention and reduction initiatives by government agencies and non-governmental organizations at the Federal, state, and local levels. EPA intends to be a catalyst for states and localities to develop strategies to deal with trash and litter in more proactive ways, and in so doing, protect the environment, reduce their costs over the long term, and enhance their economies.

The TFW program has five elements, each of which addresses a factor that has been identified by many external constituent groups as important to help states and localities deal with trash more efficiently and cost-effectively. One element is to develop more credible data on the cost impacts of trash in the aquatic environment – costs to municipalities, businesses, and individual taxpayers.

This work assignment will address the issue of economic impacts from aquatic trash and debris.

5. **Objective:** The objective of this project is to create a credible, quantified analysis of (1) the societal costs of trash in the aquatic environment and (2) the economic benefits of trash prevention

and reduction. The analysis will review, compile, assess *existing* studies of trash management costs, trash and debris impacts on local and state economies, and potential savings from innovative approaches (i.e., technologies, processes, programs) to trash prevention and reduction.

The analysis also will seek to both consolidate and extrapolate available data to reach economically credible conclusions on aggregate costs and benefits associated with trash pollution, management, and proactive prevention at the national, regional, state, and municipal levels. The analysis will identify data gaps and analytical needs where credible conclusions cannot be drawn. Results will be presented in a white paper format. EPA will convene a panel of qualified experts to review and assess the white paper, with the ultimate goal of finalizing the paper and sharing it with the public.

6. Description of Tasks: Note that for purposes of this PWS, the term “aquatic trash” refers to trash, litter, and debris that has entered the aquatic environment, including freshwater ecosystems (rivers, lakes, streams, and bays) and coastal ecosystems (estuaries, beaches, and the marine environment). Note also that, in the event that unforeseen circumstances require changes in tasks, deliverables, or deliverable dates, the COR will amend the PWS to reflect such changes.

Task 1: Develop a work plan and cost proposal.

The Contractor shall develop a work plan describing the necessary steps and estimated hours and costs to complete each of the tasks specified in this work assignment. The work plan shall include plans for completion of all QA-related tasks, reviews, and reporting described in the Quality Management Plan customized for this contract and the Quality Assurance Project Plan, as specified in this work assignment. The work plan also shall identify all of the key personnel participating in this work assignment. The workplan shall be due in accordance with contract requirements.

The Contractor shall provide the following deliverable for Task 1:

TASK	DELIVERABLES	DUE DATE TO EPA
Task 1: Develop workplan and cost proposal	Workplan and Cost Proposal	In accordance with contract requirements.

Task 2: Comply with all Quality Assurance requirements.

The work to be performed by the Contractor under this work assignment involves the collection, generation, evaluation, analysis, and/or use of environmental data, and therefore requires the development of a QAPP before any work begins on such activities. The Contractor is required to take the following actions:

- The Contractor shall adhere to the Contract-level Quality Management Plan (QMP) customized for this contract in performing the services requested in this work assignment.
- The Contractor shall prepare and submit for EPA review a draft QAPP, including Standard Operating Procedures (SOPs) and checklists, documenting how quality assurance (QA) and quality control (QC) will be applied to the generation, collection, evaluation, analysis and use of environmental data. The Contractor shall write the QAPP using the active voice.
- EPA will review the Contractor's draft QAPP and provide the Contractor with written approval or written comments. If comments are provided, the Contractor shall submit a revised QAPP that addresses those comments.
- The Contractor shall not perform any work that involves the generation, collection, evaluation, analysis, or use of environmental data until they have received written notification from the COR that EPA has approved the Contractor's QAPP.
- The Contractor shall provide sufficient detail in the QAPP to clearly describe the actions taken to meet quality assurance requirements, including but not limited to the following: objectives of the project supported by the work assignment; the type of data to be collected, generated, or used to support the project objectives; the quality objectives necessary to support the project objectives; and the QA and QC activities to be performed to ensure that any results obtained are documented and are of the type, quality, transparency, and reproducibility needed.
- The QAPP must be consistent with the *EPA Office of Water Quality Management Plan, February 2009, EPA 821-R-09-001*, <http://www.epa.gov/oamcinc1/1100002/attach9.pdf> and the *EPA Requirements for Quality Assurance Project Plans: EPA QA/R-5*, <http://www.epa.gov/quality/qs-docs/r5-final.pdf>.

Once the QAPP is approved by EPA, the Contractor shall comply with all QA/QC requirements set forth in the QAPP. The Contractor also shall comply with the following procedural requirements related to compliance with the QAPP:

- The Contractor shall notify the COR if they determine that changes to the QAPP are warranted (e.g., due to organizational changes, revised technical approaches, or other unforeseen circumstances).

- The Contractor shall provide written monthly reports of activities involving QA/QC performed during this work assignment. These monthly QA reports shall identify QA activities performed to comply with the QAPP, problems encountered, deviations from the QAPP, and corrective actions taken. The Contractor may include this information in their monthly financial/technical progress report.
- If, during the Period of Performance of this Work Assignment, the COR provides technical direction that revisions to the QAPP are necessary, the Contractor shall follow all procedures and requirements set forth for development of the original QAPP, as specified above. The Contractor shall include a version history page that summarizes changes made. The Contractor also shall provide EPA with copies of any modified SOPs or checklists.
- All QA documentation, including the QAPP, prepared under this work assignment shall be considered non-proprietary and shall be made available to the public by the contractor at EPA's request.
- In addition to the QAPP requirements described above, all major deliverables (e.g., Technical Support Documents, Study Reports, Study Plans, etc.) produced by the Contractor under this work assignment must include a discussion of the QA/QC activities that were or will be performed to support the deliverable. The QA/QC section shall summarize the QA/QC activities performed during the project that relate to the deliverable, identify any deviations from QA protocols (e.g., from the QAPP), problems encountered and corrective actions taken, and any limitations on the usability of the data for the purposes intended.
- The Contractor shall immediately notify the COR of any QA problems encountered that may impact the performance of this Work Assignment, with recommendations for corrective action.

The Contractor shall provide the following deliverables for Task 2:

TASK	DELIVERABLES	DUE DATE TO EPA
Task 2: Develop and comply with a QAPP	A draft QAPP (or draft revisions to the existing QAPP, if needed) to EPA for internal review and vetting.	In accordance with contract requirements.
	Final draft of QAPP.	Within 5 business days of receiving EPA's written comments on draft QAPP.
	Final QAPP deliverables.	Within 3 business days of receiving EPA's written comments on final draft.

Task 3: Create an inventory of publicly available studies on the economic impacts of trash in the aquatic environment *and* the potential economic benefits of programs to prevent and reduce trash loadings into freshwater and coastal ecosystems.

The Contractor shall review and compile publicly available data sources for information on the economic impacts of trash in the aquatic environment and the potential economic benefits of programs to prevent and reduce trash loadings into freshwater and coastal ecosystems.

Publicly available data sources may include, but are not limited to, government reports produced by Federal, regional, state, and municipal agencies; reports prepared by national non-governmental organizations such as the Ocean Conservancy, and by state and local non-governmental organizations such as the Anacostia Watershed Society; reports prepared by business organizations and individual businesses; and reports prepared by academic entities. Studies do not have to be peer reviewed to be relevant. The Contractor shall not utilize data sources created prior to 2005, unless in their judgment a pre-2005 data source provides relevant information that addresses the objectives of this project.

The Contractor shall list and *briefly* summarize the primary economic findings of these reports, utilizing a format and level of detail that is developed in consultation with the COR.

Primary economic findings shall include, but are not limited to, the costs of trash management programs (e.g., collection, clean-up, screening devices, education); the impacts of aquatic trash on state and local economies (e.g., impacts on tax rates and lost revenue/increased expenditures for business sectors such as tourism, recreation, and transportation); and the relative costs savings (if any) of prevention and reduction programs in comparison with status quo clean-up efforts.

The Contractor shall generate a summary document which identifies the publicly available studies and summarizes the relevant findings of those studies. The Contractor shall develop the format and elements of the summary document in consultation with the COR.

The Contractor shall consult with the COR periodically as work proceeds with Task 2, including the identification of data sources to be included in the study, and shall share preliminary findings. Any changes in the scope or content of the research required for this task shall be developed in full consultation with the COR and implemented by means of a technical amendment to this PWS.

The Contractor shall provide the following deliverables for Task 3:

TASK	DELIVERABLES	DUE DATE TO EPA
Task 3: Create an inventory of publicly available economic studies of aquatic trash costs and benefits.	Research plan and preliminary report format for this Task.	October 30, 2013
	Listing of publicly available studies that have been identified for inclusion in the report for this Task.	November 15, 2013
	Draft summary document in the	TBD

TASK	DELIVERABLES	DUE DATE TO EPA
	agreed-upon format that identifies available data sources and primary economic findings from those sources.	
	Final summary document in the agreed-upon format that identifies available data sources and primary economic findings from those sources.	TBD

Task 4: Analyze the information assembled in Task 3 and develop a set of economically credible conclusions on the aggregate costs associated with trash pollution *and* the economic benefits of proactive trash prevention at the national, regional, state, and municipal levels.

The Contractor shall conduct an analysis of the publicly available information on the economic impacts of trash in the aquatic environment and the potential economic benefits of programs to prevent loading of trash into freshwater and coastal ecosystems. The analysis shall seek to determine the aggregate costs associated with trash pollution *and* the economic benefits of proactive prevention at the national, regional, state, and municipal levels.

Analysis of costs and benefits shall include, but are not limited to, the costs of trash management programs (e.g., collection, clean-up, screening devices, education); the impacts of aquatic trash on state and local economies (e.g., impacts on tax rates and lost revenue/increased expenditures for business sectors such as tourism, recreation, and transportation); the relative costs savings and return on investment (if any) of prevention and reduction programs in comparison with status quo clean-up efforts.

The Contractor shall calculate, where possible, total aggregated costs and benefits at the national, regional, state, and municipal levels; average costs and benefits for specific practices and/or levels of government; and potential costs savings for different activities calculated from data obtained from studies identified in Task 2.

The Contractor shall use all applicable economic methodologies to conduct the requisite analysis under this task, including but not limited to consolidation of data from multiple studies and the extrapolation of available data using modeling and other techniques.

The Contractor's analysis shall identify data gaps and additional analytical opportunities where credible conclusions cannot be drawn.

The Contractor shall present analytical findings in a white paper report, with the specific organization and format of the white paper to be determined after prior consultation with the COR.

The Contractor shall not release data or environmental information without prior approval of the COR.

The Contractor shall provide the following deliverables for Task 4:

TASK	DELIVERABLES	DUE DATE TO EPA
Task 4: Analyze the costs of aquatic trash and the benefits of trash prevention programs.	Analytical plan and preliminary report format for this Task.	TBD
	Draft white paper report in the agreed-upon format.	TBD
	Final white paper report in the agreed-upon format, including a QA report.	TBD

7. **General Requirements:**

- **Delays:** The Contractor shall notify the COR in advance if a due date will not be met and shall request a new due date.
- **Draft Documents:** The Contractor shall submit draft documents for COR's review. Draft documents shall be provided in both hard copy and electronic format, with specific formatting subject to approval by the COR. The COR will provide comments on draft documents prior to submission of final documents.
- **Final Documents:** The Contractor shall submit final documents in both hard copy and electronic format, with specific formatting subject to approval by the COR.
- **Consultants and subcontractors:** The Contractor shall provide the EPA Contracting Officer with signed copies of all consultant and/or subcontractor agreements for work required to be done by experts not directly employed by ERG (if any).
- **Monthly reports:** The Contractor shall provide monthly progress reports to the COR with information on progress toward completion of deliverables, issues that have been identified during the course of the work (including QA issues), newly identified opportunities to improve the project, and expenditure of available resources.
- **Funding expenditure notification:** The Contractor shall notify the COR when 85% of the allocated funds for this project have been expended.

8. Travel: Any travel chargeable to this Performance Work Statement shall be allowable only in accordance with the limitation of FAR 31.205-43 and FAR 31.205-46, and must be approved by the EPA Project Officer prior to travel taking place.

9. Contractor Identification: Contractor personnel shall clearly identify corporate affiliation at the start of any meeting. While attending EPA-sponsored meetings, conferences, symposia, etc. or while on a Government site, Contractor personnel shall wear a badge which identifies the individual as a contractor employee. Contractor personnel are strictly prohibited from acting as a representative of the Agency at meetings, conferences, symposia, etc.

10. Confidentiality: In the event that any work assigned under these tasks involves the handling of confidential governmental or business information, the Contractor shall follow all mandatory procedures for handling such information and shall not disclose any such information to the public.

11. Prohibition of inherently governmental activities: Contractor activities under this Performance Work Statement shall be strictly limited to providing analysis and recommendations with regard to technical and programmatic issues. The Contractor shall not engage in activities of an inherently governmental nature, such as the following:

1. Formulation of Agency policy;
2. Selection of Agency priorities;
3. Development of Agency regulations.

Should the Contractor receive any instruction from an EPA staff person that the Contractor ascertains to fall into any of these categories or goes beyond the scope of the contract or the Performance Work Statement, the contractor shall immediately contact the Project Officer or the Contracting Officer.

12. Guidance Regarding Conferences: No single event under this Work Assignment is anticipated to exceed \$20,000. The Contractor shall immediately notify the EPA Contracting Officer, PO and WAM of any anticipated event involving support for a meeting, conference, workshop, symposium, retreat, seminar or training that may potentially incur \$20,000 or more in cost during performance. Conference expenses are all direct and indirect costs paid by the government and include any associated authorized travel and per diem expenses, room charges for official business, audiovisual use, light refreshments, registration fees, ground transportation and other expenses as defined by the Federal Travel Regulations. All outlays for conference preparation should be included, but the federal employee time for conference preparation should not be included. After notifying EPA of the potential to reach this threshold, the Contractor shall not proceed with the task(s) until authorized to do so by the Contracting Officer.

EPA United States Environmental Protection Agency Washington, DC 20460 Work Assignment						Work Assignment Number 1-50				
						<input type="checkbox"/> Other <input type="checkbox"/> Amendment Number:				
Contract Number EP-C-12-021			Contract Period 09/26/2012 To 09/25/2014 Base Option Period Number 1			Title of Work Assignment/SF Site Name Trash Free Waters				
Contractor EASTERN RESEARCH GROUP, INC.					Specify Section and paragraph of Contract SOW See PWS					
Purpose: <input checked="" type="checkbox"/> Work Assignment <input type="checkbox"/> Work Assignment Close-Out <input type="checkbox"/> Work Assignment Amendment <input type="checkbox"/> Incremental Funding <input checked="" type="checkbox"/> Work Plan Approval						Period of Performance From 09/26/2013 To 02/28/2014				
Comments:										
<div style="display: flex; justify-content: space-between;"> <input type="checkbox"/> Superfund Accounting and Appropriations Data <input checked="" type="checkbox"/> Non-Superfund </div>										
Note: To report additional accounting and appropriations data use EPA Form 1900-69A.										
SFO <input type="checkbox"/> (Max 2)										
Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1										
2										
3										
4										
5										
Authorized Work Assignment Ceiling										
Contract Period:		Cost/Fee: \$0.00		LOE: 0						
09/26/2012 To 09/25/2014										
This Action:		\$32,726.00		365						
Total:		\$32,726.00		365						
Work Plan / Cost Estimate Approvals										
Contractor WP Dated: 10/17/2013		Cost/Fee: \$32,726.00		LOE: 365						
Cumulative Approved:		Cost/Fee: \$32,726.00		LOE: 365						
Work Assignment Manager Name Robert Benson <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>						Branch/Mail Code: Phone Number 202-566-2954 FAX Number:				
Project Officer Name Meghan Hessenauer <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>						Branch/Mail Code: Phone Number: 202-566-1040 FAX Number:				
Other Agency Official Name <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>						Branch/Mail Code: Phone Number: FAX Number:				
Contracting Official Name Brad Heath <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>						Branch/Mail Code: Phone Number: 513-487-2352 FAX Number:				

EPA United States Environmental Protection Agency Washington, DC 20460 Work Assignment						Work Assignment Number 1-50				
						<input type="checkbox"/> Other <input checked="" type="checkbox"/> Amendment Number: 000001				
Contract Number EP-C-12-021			Contract Period 09/26/2012 To 09/25/2014			Title of Work Assignment/SF Site Name				
			Base Option Period Number 1			Trash Free Waters				
Contractor EASTERN RESEARCH GROUP, INC.					Specify Section and paragraph of Contract SOW N/A					
Purpose: <input type="checkbox"/> Work Assignment <input type="checkbox"/> Work Assignment Close-Out <input checked="" type="checkbox"/> Work Assignment Amendment <input type="checkbox"/> Incremental Funding <input type="checkbox"/> Work Plan Approval					Period of Performance From 09/26/2013 To 09/25/2014					
Comments: The purpose of this Amendment 1 is to extend the period of performance of the work assignment to September 25, 2014 at no additional cost to the Government. A revised Work Plan is not required from the contractor. Completion dates for specific tasks within the PWS shall be accomplished via Technical Direction (TD) from the Work Assignment Manager (WAM).										
<input type="checkbox"/> Superfund Accounting and Appropriations Data <input checked="" type="checkbox"/> Non-Superfund										
Note: To report additional accounting and appropriations data use EPA Form 1900-69A.										
SFO (Max 2) <input type="checkbox"/>										
Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1										
2										
3										
4										
5										
Authorized Work Assignment Ceiling										
Contract Period: Cost/Fee: LOE: 09/26/2012 To 09/25/2014										
This Action: 										
Total:										
Work Plan / Cost Estimate Approvals										
Contractor WP Dated: Cost/Fee: LOE:										
Cumulative Approved: Cost/Fee: LOE:										
Work Assignment Manager Name Robert Benson <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>							Branch/Mail Code: Phone Number 202-566-2954 FAX Number:			
Project Officer Name Meghan Hessenauer <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>							Branch/Mail Code: Phone Number: 202-566-1040 FAX Number:			
Other Agency Official Name <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>							Branch/Mail Code: Phone Number: FAX Number:			
Contracting Official Name Brad Heath <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>							Branch/Mail Code: Phone Number: 513-487-2352 FAX Number:			

EPA United States Environmental Protection Agency Washington, DC 20460 Work Assignment						Work Assignment Number 1-51				
						<input type="checkbox"/> Other <input type="checkbox"/> Amendment Number:				
Contract Number EP-C-12-021			Contract Period 09/26/2012 To 09/25/2014 Base Option Period Number 1			Title of Work Assignment/SF Site Name Clean Boating Act Workshop				
Contractor EASTERN RESEARCH GROUP, INC.					Specify Section and paragraph of Contract SOW See PWS					
Purpose: <input checked="" type="checkbox"/> Work Assignment <input type="checkbox"/> Work Assignment Close-Out <input type="checkbox"/> Work Assignment Amendment <input type="checkbox"/> Incremental Funding <input type="checkbox"/> Work Plan Approval						Period of Performance From 09/26/2013 To 09/25/2014				
Comments:										
<div style="display: flex; justify-content: space-between;"> <input type="checkbox"/> Superfund Accounting and Appropriations Data <input checked="" type="checkbox"/> Non-Superfund </div>										
Note: To report additional accounting and appropriations data use EPA Form 1900-69A.										
SFO (Max 2) <input type="checkbox"/>										
Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1										
2										
3										
4										
5										
Authorized Work Assignment Ceiling										
Contract Period:		Cost/Fee:			LOE:					
09/26/2012 To 09/25/2014										
This Action:										
Total:										
Work Plan / Cost Estimate Approvals										
Contractor WP Dated:				Cost/Fee:			LOE:			
Cumulative Approved:				Cost/Fee:			LOE:			
Work Assignment Manager Name Ryan Gross <div style="display: flex; justify-content: space-between;"> <div>_____</div> <div>_____</div> </div> <div style="display: flex; justify-content: space-between;"> <div>(Signature)</div> <div>(Date)</div> </div>							Branch/Mail Code: Phone Number 202-566-1810 FAX Number:			
Project Officer Name Meghan Hessenauer <div style="display: flex; justify-content: space-between;"> <div>_____</div> <div>_____</div> </div> <div style="display: flex; justify-content: space-between;"> <div>(Signature)</div> <div>(Date)</div> </div>							Branch/Mail Code: Phone Number: 202-566-1040 FAX Number:			
Other Agency Official Name <div style="display: flex; justify-content: space-between;"> <div>_____</div> <div>_____</div> </div> <div style="display: flex; justify-content: space-between;"> <div>(Signature)</div> <div>(Date)</div> </div>							Branch/Mail Code: Phone Number: FAX Number:			
Contracting Official Name Brad Heath <div style="display: flex; justify-content: space-between;"> <div>_____</div> <div>_____</div> </div> <div style="display: flex; justify-content: space-between;"> <div>(Signature)</div> <div>(Date)</div> </div>							Branch/Mail Code: Phone Number: 513-487-2352 FAX Number:			

**Performance Work Statement
Contract EP-C-12-021
Work Assignment 1-51**

1. **Title:** Support for Planning an Expert Scientific Workshop on Aquatic Nuisance Species Management Practices for Recreational Vessels.

2. **EPA Contracting Officer Representative:**

Ryan Gross
Office of Water/ Office of Wetlands, Oceans, and Watersheds (OW/OWOW)
Oceans and Coastal Protection Division (OCPD)
Marine Pollution Protection Branch (MPCB), 4504T
1200 Pennsylvania Avenue, N.W.
Washington, DC 20460
Tel: 202/566-1810
Fax: 202/566-1546
E-mail: gross.ryan@epa.gov

3. **Period of Performance; Contract Option Period:**

September 26, 2013 through September 25, 2014

4. **PERFORMANCE WORK STATEMENT (PWS):**

Background:

The Clean Boating Act (CBA), which was signed into law in 2008, provides that recreational vessels shall not be subject to the requirement to obtain an NPDES permit to authorize discharges incidental to their normal operations. Rather, the CBA directs EPA to evaluate recreational vessel discharges and develop management practices that are “reasonable and practicable” for appropriate discharges (Phase 1 regulations), and then to promulgate performance standards for the use of those management practices (Phase 2 regulations). The CBA then directs the U.S. Coast Guard (USCG) to promulgate regulations for the use of the management practices developed by EPA (Phase 3 regulations); further, following promulgation of the USCG regulations, it requires compliance by recreational boaters with these management practices and performance standards. This Performance Work Statement (PWS) is to support technical and outreach activities to meet EPA obligations to the CBA.

Objectives:

Transport of Aquatic Nuisance Species (ANS) is one category of discharge being considered for management practices. EPA intends to hold a workshop in 2013 or 2014 to obtain expert opinion on how the Agency should move forward in establishing the scope and nature of ANS management practices in regards to the CBA. Scientific recommendations from workshop participants will aid the Agency in developing reasonable, practicable, and cost-effective management practices that can be used by recreational boaters to control the spread of ANS.

EPA has not yet determined a workshop format nor identified participants. Consequently, the purpose of this PWS is to plan all the necessary details so that the Agency can convene the workshop at a future date. The primary objective of this PWS is to plan the workshop such that the Agency obtains the scientific recommendations it needs in a cost effective manner.

6. Description of Tasks:

Task 1: Work Plan and Cost Estimate, Quality Assurance

- 1.1 The contractor shall prepare a work plan within 30 calendar days of receipt of this PWS. The work plan shall present the technical approach by task; the project schedule and deliverables; staffing details; level of effort by task, staff member, and professional labor mix; and the estimated budget. EPA anticipates the Contractor's Cost and Technical Approach will fully account for the completion of all QA-related tasks, reviews, and reporting described in this PWS and in the Contract-level QMP.

The contractor shall not proceed with any task in this work assignment without the approval of the work plan by the Contracting Officer (CO). If there are any EPA requested changes or modifications beyond the tasks and deliverables indicated in the approved work plan, these changes shall be ordered through an official amendment signed by the CO.

Quality Assurance

Quality Assurance (QA) is an important component of EPA's work to assure that minimum quality standards for the use intended are attained. The contractor shall adhere to the Quality Management Plan (QMP) that has been incorporated into this OST contract, EP-C-12-02.

Quality Assurance Project Plans (QAPP) are required under the Agency's Quality Assurance Policy CIO-2105, formerly EPA Order 5360.1A2 and implementing guidance CIO-2105-P-01-0. All projects that involve the generation, collection, analysis and use of environmental data must have an approved QAPP prior to the commencement of the work.

QA Project Plan Requirements

- 1.2 EPA policy requires that an *approved* QAPP be in place before any work begins that involves the collection, generation, evaluation, analysis or use of environmental data. The work to be performed by the Contractor under this work assignment involves such activities; the contractor shall address the QA requirements of this task order (see Task 2) by developing a QAPP. The contractor shall prepare a draft QAPP, for review by EPA, and a final QAPP, which address comments provided by EPA.

The contractor shall follow and provide its Standard Operating Procedures for document preparation as an attachment to the QAPP. The contractor will work with the COR to ensure that all comments are addressed and incorporated into the final documents, as appropriate. In order to comply with this requirement:

The contractor shall prepare and submit a QAPP documenting how QA and quality control (QC) will be applied to the generation, collection, evaluation, analysis and use of environmental data within 15 days after submittal of the workplan.

The QAPP must be consistent with the *EPA Office of Water Quality Management Plan*, (EPA 821-R-09-001, U.S. Environmental Protection Agency, Office of Water, Washington DC, February 2009) (<http://www.epa.gov/oamcinc1/1100002/attach9.pdf>), and the *EPA Requirements for Quality Assurance Project Plans: EPA QA/R-5* (<http://www.epa.gov/quality/qs-docs/r5-final.pdf>).

- EPA will review the submitted QAPP and provide the Contractor with written approval or comments.
- The Contractor shall revise the submitted QAPP within 10 days of receipt of EPA comments, unless otherwise instructed by the EPA COR.
- **Under no circumstances shall work that involves the generation, collection, evaluation, analysis, or use of environmental data be performed without an approved QAPP in place.**
- Any non-sampling/non-analytical work that involves the generation, collection, evaluation, analysis, or use of environmental data that is initiated prior to approval of the Contractor's QAPP must be performed in accordance with the approved QAPP (i.e., QAPP requirements must be applied retroactively to this period).

The contractor shall write the QAPP using the active voice. The QAPP shall address the generation (including field studies, laboratory studies, and modeling output), **collection** (including surveys, literature searches, and third party data), **evaluation** (including data inspection, review, assessment, and validation), **analysis** (including statistical, engineering, and economic analysis, and testing, evaluation, and validation of methods and models) **and use of data** to support EPA decisions, regulations, policy, publications, or tools (including effluent guidelines, methods, criteria, standards, environmental assessments, and models, tools, or reports disseminated by EPA to assist other organizations in implementing environmental programs). Examples of data include, but are not limited to, wastewater sample analysis results, flow measurements, facility or economic questionnaire data, economic data, use of models, secondary data (including sources and the acceptance criteria), any software and database management requirements and any other relevant work that might affect the quality of the data. For example, when existing models are used as a tool to generate or evaluate data, the project QAPP must describe the model, how it will be used, and how the model output will be evaluated to ensure it meets the overall quality objectives for the project.

The QAPP shall provide enough detail to clearly describe objectives of the project supported by the work assignment; the type of data to be collected, generated, or used under this work assignment to support the project objectives; the quality objectives needed to ensure that these will support the project objectives; and the quality assurance and quality control activities to be performed to ensure that any results obtained are documented and are of the type, quality, transparency, and reproducibility needed. The QAPP shall include specific performance criteria and measures that will be used to verify that data generated, collected or

used in this work assignment meet those criteria. If a database or other electronic tool (e.g., model, spreadsheet, etc) will be created for the project, the QAPP must describe how the database or electronic tool will be documented (e.g., data element dictionary, user manual, SOP, or other means appropriate for the project), the controls to ensure accurate data entry (when data from another source are manually entered into the database), data transfer (when data are transferred from one electronic medium to another), or data merging (when data from multiple databases or electronic media are merged into a single database). The text of the QAPP also must explicitly reference tools, such as SOPs, checklists, and guidelines that the contractor will use in the project to document data quality. The QAPP must include the tools as attachments for EPA's review, and acceptance.

All QA documentation, including the QAPP, prepared under this Work Assignment, shall be considered non-proprietary, and shall be made available to the public upon request.

When preparing the QAPP, the Contractor shall address the following general questions applicable to QAPPs that support Office of Water projects. These questions may be directly addressed within the format of the QAPP to the maximum extent possible.

General Questions Applicable to QAPPs that support Office of Water projects

- What is the objective/goal of this effort?
- What are the roles and responsibilities of staff who will support this project, and how do they relate to the specific key steps?
- What training and competency requirements are necessary for key personnel that will support the project?
- What are the SOPs, tools and checklists that will be used?

Specific Questions that pertain to Tasks under this Work Assignment

Secondary data collection

- Which EPA databases can be used?
- Search the Web?
- Clarify the acceptance criteria.
- Include economic assessments.
- Define scope of other data sources.
- What documentation is available of data quality from secondary source?
 - Are there any criticisms of that source?
 - Anyone else in EPA use that source (and what was their experience)?
- Define QC requirements for secondary data sources (e.g., facility sampling data).
- Make use of OW QMP requirements concerning use of secondary data (*EPA Office of Water Quality Management Plan, February 2009, EPA 821-R-09-001, (<http://www.epa.gov/oamcinc1/1100002/attach9.pdf>)*).

Data Quality Act/Information Quality Guidelines Requirements

The Data Quality Act (also known as the Information Quality Act) requires EPA to ensure that influential information disseminated by the Agency is sufficiently transparent in terms of data and methods of analysis that the information is capable of being substantially

reproduced. To support compliance with these data transparency/data reproducibility requirements, EPA plans to include QAPPs as part of any rulemaking record or other documentation to be made available to the public.

Information contained in the approved QAPP must be transparent and reproducible and meet the requirements of the Data Quality Act for influential information. EPA's *Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity, of Information Disseminated by the Environmental Protection Agency* (EPA/260R-02-008, October 2002), referred to as "EPA's Information Quality Guidelines," describe EPA procedures for meeting Data Quality Act requirements. Section 6.3 of EPA's Information Quality Guidelines indicate that "especially rigorous robustness checks" should be applied in circumstances where quality-related information cannot be disclosed due to confidentiality issues. Where applicable, the Contractors should indicate which results were obtained using the tools (SOPs, checklists, and guidelines) that the Contractor designates as confidential so that the EPA COR can easily identify the areas that will require rigorous robustness checks and document that those checks have been performed. At the discretion of the EPA COR, the Contractors may be requested to prepare pre-dissemination review checklist as described in Section 5.5 of the Office of Water Quality Management Plan, February 2009. If this is required, the EPA COR will notify the Contractor through written technical direction.

Additional QA Documentation Required

In addition to the QAPP requirements described above, all major deliverables (e.g., Technical Support Documents, Study Reports, Study Plans, etc.) produced by the Contractor under this work assignment must include a discussion of the QA/QC activities that were or will be performed to support the deliverable. For example, a Technical Support Document or Study Report must include a clear discussion of the quality management strategies that were employed to control and document the quality of data generated and used.

The contractor also shall provide EPA with monthly reports of QA activities performed during implementation of this work assignment. These monthly QA reports shall identify QA activities performed to support implementation of this work assignment, problems encountered, deviations from the QAPP, and corrective actions taken. If desired, the contractor may include this as a part of the contract-required monthly financial/technical progress report.

- 1.3 The contractor shall provide electronic copies of the monthly progress reports to the EPA Program Officer (PO) and COR. Each progress report shall describe the technical work and expenditures for the same time period as the corresponding invoice. The reports shall list by task the amount of work completed and include a table of hours by personnel for each task.

The contractor shall notify the EPA COR immediately upon discovery of any problem or difficulties, including QA issues. This notification may be sent by phone or email, but if transmitted by phone, a follow-up email describing the problem shall be sent to the COR. The monthly reports shall recount any problems or difficulties encountered, including QA issues, with plans to resolve them.

Task 1 Deliverables: Work Plan, Cost Estimate, and QAPP

Tasks	Deliverables	Due Dates
1 - 1	<u>Work plan and budget:</u> Work Plan, to include LOE, estimated hours, and a budget that includes cost estimates to complete this work assignment	In accordance with contract requirements
1 - 2	<u>QAPP:</u> Draft QAPP And final QAPP, which addresses any EPA comments	Draft due within 15 days after Contractor submits workplan; Final QAPP due within 10 business days of receipt of EPA comments on Draft QAPP
1 - 3	<u>Monthly progress/ budget reports:</u> Included in the Monthly Technical Report. Monthly reports of QA work performed (may be included in the Contractor's monthly progress report.)	On due date of regular scheduled monthly reports

Task 2: Provide planning support to EPA for an expert scientific workshop to be held in 2013 or 2014

EPA intends to hold an expert scientific workshop in 2013 or 2014. The Agency shall inform the contractor of any change in the scheduled date of the workshop. The contractor shall provide pre-workshop planning and pre-workshop logistical support for a workshop. This workshop will support the development of regulations under the CBA. EPA will convene a five-day workshop for up to fifty experts to address specific technical issues related to ANS (e.g., transportation vectors, risk assessments, vessel decontamination options). This workshop shall be designed to be similar to Pellston workshops that are sponsored by the Society of Environmental Toxicology and Chemistry (SETAC). SETAC uses Pellston workshops to bring together scientists, engineers, and managers from government, academia, private businesses, and public interest groups to consider the state-of-the-art of specific environmental topic. The workshop shall utilize a combination of formal presentations by participants and informal working sessions that which will allow participants to examine the status of current information on ANS control practices and develop recommendations for enhancing the state-of-the-art of the science. For this workshop, the focus will be on issues pertaining to ANS control practices for recreational vessels. The workshop will follow similar EPA activities used for Recreational Water Quality Criteria development and use a campus-like facility at which participants will be able to focus completely on the task at hand.

The contractor shall provide support for designing the format of the workshop and identifying appropriate workshop participants.

Subtask 2-A: Workshop Planning - Design and Format of the Workshop

1. The contractor shall make recommendations on workshop duration (i.e., number of days); number, duration, and discussion topics of break-out sessions (e.g., invasion risk, decontamination efficacy); and basic daily agendas (e.g., session duration, refreshment breaks, meal breaks) for consideration and approval by EPA. The workshop design is expected to be similar to the Pellston workshop described above under Task 2. The contractor shall prepare a report describing options and recommendations for workshop format. Additionally the report shall include recommendations for six technical issues that will be the focal topic of break-out sessions. The recommendations for six technical issues shall 1) include a brief discussion of the technical issue, 2) include an explanation of the value of having workshop participants provide the Agency with suggestions for addressing the issue, and 3) be based upon reports published by state or federal agencies or based upon studies published in peer-reviewed scientific journals.
2. Contractor shall participate in regular teleconference calls, which should not exceed one-hour in duration. Teleconference calls will be with EPA COR and other staff, as requested by the COR, to ensure that all design elements for the workshop are addressed and ready to be implemented. The conference calls shall start one week after the work plan is signed and shall continue on a monthly basis. The contractor shall prepare materials (e.g., draft workshop agendas, recommendations for subject matter of break-out session) to be discussed during the teleconferences. These teleconferences will also be used to discuss activities described in Subtask 2-B. The contractor shall prepare a brief summary of the calls and submit it to the COR within five business days after the call.

Subtask 2-B: Workshop Planning - Nomination and Availability of Technical Experts

1. The contractor shall identify technical experts to participate in the workshop. EPA will provide the contractor with a list of potential nominees. The purpose of this list is to provide guidance to the contractor as to the types of technical experts that EPA believes should be considered for participation in the workshop.

The technical experts will meet the following criteria:

- The technical experts will be researchers, scientists or practitioners from academic institutions or independent or nonprofit organizations. Technical experts will have experience with the study of (plant, animal, or microbial) aquatic invasions. The technical experts will have no conflicts of interest and be committed to impartiality.
- Expertise sought should reflect most of the following areas of knowledge and capability, but are not limited to these areas:
 - Perform ANS prevention/management studies
 - Analyze the likelihood/risk of bioinvasions and evaluate data obtained statistically
 - Establish and maintain databases relevant to bioinvasions of aquatic species
 - Model/extrapolate the transport of ANS by recreational boaters, anglers, and other water users
 - Assess the relative importance of ANS transport vectors and/or interdiction points

- Education and experience should reflect most of the following:
 - Technical experts must have a graduate degree (preferably at the doctoral level) in aquatic biology, oceanography, chemistry, ecology, natural resource management, limnology, marine sciences, watershed science, or other related fields of science
 - Author of scientific/technical documents on topics related to bioinvasions and/or ANS management that have been published in peer-reviewed journals or published by a state/federal agency
 - Developing or contributing to the development of science-based recommendations that were used to support decisions regarding environmental regulations
 - Evaluation and interpretation of peer-reviewed scientific publications
 - Leadership or invited participation in national or international scientific bodies, committees, scientific panels, or other expert advisory bodies related to bioinvasions and/or ANS management

Selection process:

In selecting experts, the contractor shall give consideration to technical excellence, diversity of scientific backgrounds, and balanced representation from different geographic regions of the country. Selections shall be made without discrimination because of a person's race, color, religion, sex (including pregnancy), sexual preference, national origin, age, disability, or genetic information.

The contractor, in consultation with the EPA COR, should consider experts from the list of recommended participants provided by EPA and will recommend additional experts, whom were not included on the list provided by EPA.

2. The contractor shall provide a draft list of forty-five¹ nominated technical experts, whom are not federal employees, to the COR. The list of technical expert prepared by the contractor shall be sorted by 1) scientific discipline (to ensure a good coverage of all the scientific areas of interest) and 2) home state of the nominee (to ensure good representation of different geographic/ecological regions of the nation). The COR will review the draft list and if there are names that are not acceptable, because they do not meet the required qualifications as defined above (see Subtask 2-B-1), the COR will request from the contractor a replacement of the name(s). A second draft list of technical experts shall be provided by the contractor to replace those affected within 5 business days of receipt of EPA's non-concurrence. It is possible that there may be several iterations of the nomination/reviews process; however, EPA does not expect a need for more than three iterations to conclude the nomination process.
3. Once a final list of nominated participants is established, the contractor shall ascertain the availability of all the nominees to attend the workshop. Nominees must be able to travel to the venue selected for the workshop and stay for the duration of the workshop (i.e., five

¹ EPA anticipates approximately fifty participants: forty to forty-five nominated experts plus five to ten technical experts from federal agencies. EPA will be responsible for identifying experts from federal agencies.

days, Monday thru Friday), which may include a weekend travel date. The workshop is expected to be held during late 2013 or sometime during 2014.

The contractor shall contact each of the nominees and determine if they would be interested in participating in the workshop. When speaking with the nominees, the contractor shall advise the nominees that

- They are a contractor that is assisting EPA in planning a scientific workshop pertaining to ANS transport (see below in Section C of General Work Assignment Requirements)
- EPA is in the early planning stage of the workshop
- The Agency is trying to determine timeframes for holding the workshop that can accommodate the greatest number of participants
- While the Agency, is not extending invitations at this time, EPA may formally solicit their participation at a future date

If a nominee is interested in participating, the contractor shall also determine timeframes during which the nominee would be able to attend. The contractor shall then develop a report that compiles all responses from the nominees (including reasons that may have been offered for not wishing to attend) and identifies timeframes during which the greatest number of technical experts would be able to attend.

Task 2 Deliverables for providing planning support to EPA for an expert scientific workshop to be held in 2013 or 2014:

The contractor shall deliver all services as specified under each subtask, providing the deliverables with due dates in the table below.

Subtasks	Deliverables	Due Dates
Subtask - A	Design and Format	
2-A-1	The contractor shall provide a written proposal for the format of the workshop.	Draft: two months after approval of work plan. Final: 10 business days after receipt of EPA comments.
2-A-2	The contractor shall participate in regular teleconference calls and prepare summaries of the teleconferences.	Teleconference to occur monthly; starting 5 business days after approval of work plan. Summaries are due 5 business days after the call.
Subtask - B	Nomination and Availability of Technical Experts	
2-B-2	Draft and potentially multiple revised versions of the list of expert nominees	Draft: three months after approval of work plan. Revised versions: 5 business days after

		receipt of EPA comments.
2-B-3	Summary report on the availability of nominees and the best available timeframes to hold the workshop	Draft: four months after approval of work plan. Final: 10 business days after receipt of EPA comments.

General Work Assignment Requirements

A. Contractor Requirements:

The contractor shall submit drafts of all deliverables to the EPA COR for review, prior to submission of a final product. The contractor shall incorporate all EPA COR's comments into the final deliverables, unless otherwise agreed to by the EPA COR. The contractor shall adhere to all applicable EPA management control procedures as implemented by the EPA CO, the PO, and the COR.

The contractor shall provide all materials written under these tasks to the COR, as per this PWS, in electronic form. Electronic versions shall be in Microsoft Office format.

B. Compliance with Section 508 Requirements: Section 508 of the Rehabilitation Act mandates that all Federal departments and agencies make electronic and information technology accessible to individuals with disabilities. This includes all individuals with disabilities wishing to access Federal information. EPA is committed to making every possible effort to ensure that all electronic and information technology developed, procured, maintained, or used by EPA is accessible to all persons with disabilities. Consequently, according to the contract clause "EPAAR 1552.2119-79: Compliance with EPA Policies for Information Resources Management," all deliverables submitted by the contractor shall be compliant with the Section 508 requirements.

C. Contractors and Identification as Contracting Staff:

Contractor personnel including consultants shall clearly identify corporate affiliation at the start of any meeting. While attending EPA-sponsored meetings, conferences, symposia, etc. or while on a government site, contractor personnel shall wear a badge which identifies the individual as a contractor employee. Contractor personnel are strictly prohibited from acting as a representative of the Agency at meetings, conferences, symposia, etc. Therefore, to avoid the perception that contractor personnel are EPA employees, all contractor personnel shall be clearly identified as independent contractors of EPA when participating in events with any outside parties or the public. When speaking with the public on matters relating to this work assignment, the contractors or consultants shall refer all interpretations of policy to the EPA COR and not speak in a manner to reflect Agency policy or position.

D. Special Conditions:

The contractor shall provide signed copies of all consultant agreements for the experts required in support of this work assignment to the EPA CO. No single event under this Work Assignment is anticipated to exceed \$20,000. The Contractor shall immediately notify the EPA Contracting Officer, PO and WAM of any anticipated event involving support for a meeting, conference,

workshop, symposium, retreat, seminar or training that may potentially incur \$20,000 or more in cost during performance. Conference expenses are all direct and indirect costs paid by the government and include any associated authorized travel and per diem expenses, room charges for official business, audiovisual use, light refreshments, registration fees, ground transportation and other expenses as defined by the Federal Travel Regulations. All outlays for conference preparation should be included, but the federal employee time for conference preparation should not be included. After notifying EPA of the potential to reach this threshold, the Contractor shall not proceed with the task(s) until authorized to do so by the Contracting Officer.

CONFIDENTIALITY:

Some of the work assigned under these tasks will be to draft, edit and review sensitive program and organizational information. The contractor shall not discuss the contents of the conference or workshop discussions with anyone that did not participate in those discussions.

NOTICE REGARDING GUIDANCE PROVIDED UNDER THIS WORK ASSIGNMENT:

Guidance from an EPA staff person is strictly limited to technical and analytical support. The contractor shall not engage in activities of an inherently governmental nature such as the following:

- Formulation of Agency policy
- Selection of Agency priorities
- Development of Agency regulations

Should the contractor receive any instruction from an EPA staff person that the contractor ascertains to fall into any of these three categories (see above) or goes beyond the scope of the contract or work assignment, the contractor shall immediately contact the COR, the PO, or the CO.

EPA United States Environmental Protection Agency Washington, DC 20460 Work Assignment						Work Assignment Number 1-51				
						<input type="checkbox"/> Other <input type="checkbox"/> Amendment Number:				
Contract Number EP-C-12-021			Contract Period 09/26/2012 To 09/25/2014			Title of Work Assignment/SF Site Name				
			Base Option Period Number 1			Clean Boating Act Workshop				
Contractor EASTERN RESEARCH GROUP, INC.					Specify Section and paragraph of Contract SOW See PWS					
Purpose: <input checked="" type="checkbox"/> Work Assignment <input type="checkbox"/> Work Assignment Close-Out <input type="checkbox"/> Work Assignment Amendment <input type="checkbox"/> Incremental Funding <input checked="" type="checkbox"/> Work Plan Approval					Period of Performance From 09/26/2013 To 09/25/2014					
Comments:										
<input type="checkbox"/> Superfund Accounting and Appropriations Data <input checked="" type="checkbox"/> Non-Superfund										
Note: To report additional accounting and appropriations data use EPA Form 1900-69A.										
SFO (Max 2) <input type="checkbox"/>										
Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1										
2										
3										
4										
5										
Authorized Work Assignment Ceiling										
Contract Period:		Cost/Fee: \$0.00		LOE: 0						
09/26/2012 To 09/25/2014										
This Action:		\$16,063.00		162						
Total:		\$16,063.00		162						
Work Plan / Cost Estimate Approvals										
Contractor WP Dated: 11/19/2013		Cost/Fee: \$16,063.00		LOE: 162						
Cumulative Approved:		Cost/Fee: \$16,063.00		LOE: 162						
Work Assignment Manager Name Ryan Gross						Branch/Mail Code:				
_____ (Signature) (Date)						Phone Number 202-566-1810				
						FAX Number:				
Project Officer Name Meghan Hessenauer						Branch/Mail Code:				
_____ (Signature) (Date)						Phone Number: 202-566-1040				
						FAX Number:				
Other Agency Official Name						Branch/Mail Code:				
_____ (Signature) (Date)						Phone Number:				
						FAX Number:				
Contracting Official Name Brad Heath						Branch/Mail Code:				
_____ (Signature) (Date)						Phone Number: 513-487-2352				
						FAX Number:				

EPA United States Environmental Protection Agency Washington, DC 20460 Work Assignment						Work Assignment Number 1-52	
						<input type="checkbox"/> Other <input type="checkbox"/> Amendment Number:	
Contract Number EP-C-12-021		Contract Period 09/26/2012 To 09/25/2014			Title of Work Assignment/SF Site Name		
		Base Option Period Number 1			BASINS Support and Maintenance		
Contractor EASTERN RESEARCH GROUP, INC.				Specify Section and paragraph of Contract SOW See PWS			
Purpose: <input checked="" type="checkbox"/> Work Assignment <input type="checkbox"/> Work Assignment Close-Out <input type="checkbox"/> Work Assignment Amendment <input type="checkbox"/> Incremental Funding <input type="checkbox"/> Work Plan Approval				Period of Performance From 09/26/2013 To 09/25/2014			
Comments: Work shall not commence on this work assignment until September 26, 2013.							
<input type="checkbox"/> Superfund Accounting and Appropriations Data <input checked="" type="checkbox"/> Non-Superfund							
Note: To report additional accounting and appropriations data use EPA Form 1900-69A.							
SFO (Max 2) <input type="checkbox"/>							
Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars) (Cents) Site/Project (Max 8) Cost Org/Code (Max 7)
1							
2							
3							
4							
5							
Authorized Work Assignment Ceiling							
Contract Period: 09/26/2012 To 09/25/2014		Cost/Fee:		LOE:			
This Action:							
Total:							
Work Plan / Cost Estimate Approvals							
Contractor WP Dated:		Cost/Fee:		LOE:			
Cumulative Approved:		Cost/Fee:		LOE:			
Work Assignment Manager Name Rosaura Conde						Branch/Mail Code:	
_____ (Signature) (Date)						Phone Number 202-566-1514	
						FAX Number:	
Project Officer Name Meghan Hessenauer						Branch/Mail Code:	
_____ (Signature) (Date)						Phone Number: 202-566-1040	
						FAX Number:	
Other Agency Official Name						Branch/Mail Code:	
_____ (Signature) (Date)						Phone Number:	
						FAX Number:	
Contracting Official Name Brad Heath						Branch/Mail Code:	
_____ (Signature) (Date)						Phone Number: 513-487-2352	
						FAX Number:	

**PERFORMANCE WORK STATEMENT
CONTRACT EP-C-12-021
WORK ASSIGNMENT 1-52**

Title: BASINS Support and Maintenance

Work Assignment Manager (WAM): Rosaura Conde
Phone: 202-566-1514
Email: conde.rosaura@epa.gov

Alternate Work Assignment Manager: Rajbir Parmar
Phone: 706-355-8306
Email: parmar.rajbir@epamail.epa.gov

Period of Performance (POP): September 26, 2013 through September 25, 2014

A. BACKGROUND

BASINS (Better Assessment Science Integrating point and Nonpoint Sources) is a multipurpose environmental analysis system designed for regional, state, and local agencies that perform watershed and water quality-based studies. This system makes it possible to quickly assess large amounts of point and non-point source data in a format that is easy to use and understand. Installed on a personal computer, BASINS allows the user to assess water quality at selected stream sites or throughout an entire watershed. This invaluable tool integrates environmental data, analytical tools, and modeling programs to support cost-effective approaches to watershed management and environmental protection, including the development of Total Maximum Daily Loads (TMDLs).

BASINS can be accessed at: <http://water.epa.gov/scitech/datait/models/basins/index.cfm>.

B. PURPOSE

The purpose of this work assignment is to:

- Provide support to user community, primarily by responding to inquiries received through inbox.
- Maintain BASINS current by fixing program bugs and/or developing program enhancements to facilitate use.

* Note that EPA is in the process of releasing BASINS 4.1. This new version was done by AQUA TERRA under a separate task order (EPA Contract #EP-G12C-00269).

C. SPECIALIZED SKILLS

The Contractor shall provide experts who are experienced in using BASINS and have a thorough understanding of its operation and the models contained within the system. In particular expertise shall be available in the following:

Models: HSPD, DFLOW, SWAT, PLOAD, WASP, SWMM, and GWLF – expertise on model setup, calibration, data sources, and model output interpretation.

GIS: ArcView, ArcGIS, and MapWindow software; GIS data; metadata and incorporation of user-supplied data.

Systems: Using BASINS and its components under Windows XP, and Windows 7, and Windows Vista operating systems.

Utilities: WDM Utility, HSPFParm, HSPF Expert System, WinHSPF, Bacteria spreadsheet, GenScn, and PEST driver.

Programming: Object-oriented programming such as Visual Basic, C+, C#, .NET, Active X, FORTRAN, and other languages.

The Contractor must also have experience working to publish updates to a system in EPA's servers and web environment.

D. TASKS

TASK 1 – Kick-off Meeting

Prior to beginning work on this Work Assignment in the Base Period and in each of the Option Periods, the EPA Work Assignment Manager (WAM) shall schedule a “Kick Off” meeting with the Contractor and quality assurance officer. The agenda for this meeting will include the following items: (a) overview of the goals of the Work Assignment; (b) review and discussion of individual tasks; (c) roles and responsibilities of the WAM, and of the Contractor; (c) any questions or concerns regarding QA/QC actions; (d) review the schedule of milestones and expectations; and (e) other items as requested either by the WAM or the Contractor.

TASK 2: Quality Assurance / Quality Control

The Contractor shall notify the EPA WAM at any time during the Work Assignment if changes to the QAPP are warranted (e.g., due to organizational changes, revised technical approaches or other unforeseen circumstance). Note that the existing QAPP for latest round of BASINS enhancements will be provided (Attachments 2 and 3).

If, during the Period of Performance of this Work Assignment, the EPA WAM provides technical direction that revisions to the QAPP are determined to be necessary, the Contractor shall submit a revised QAPP, including the revision summary.

When preparing this “draft” revised version of the QAPP, the Contractor shall ensure that it is written in an active voice and shall include a “version history page” that summarizes changes made. The Contractor also shall provide EPA with copies of any modified SOPs or checklists.

EPA will review the “draft” revised QAPP and provide the Contractor with written approval or comments. The Contractor shall provide a final QAPP that responds to EPA’s written comments

TASK 3: Develop Work Plan and Manage Project

The Contractor shall prepare a Work Plan for the tasks outlined here. The Contractor shall also provide management and administrative support related to this work assignment, including the following:

- Perform financial oversight and prepare monthly progress reports to the EPA WAM. These progress reports shall include a detailed breakdown of costs and hours, a progress report on each task, problems encountered, and percent completion of the work.
- Track progress toward completion of tasks against costs and LOE expended.
- Perform quality assurance checks of products produced in these tasks.
- Assist in resolving internal problems associated with completion of tasks or costs.

Should an issue arise, the Contractor shall contact the EPA WAM to inform of the problem and provide options for resolution. The Contractor shall provide follow up by email or phone until the issue is resolved.

TASK 4: Provide Technical Support for BASINS

On occasion, requests on how to use BASINS for a particular application require a more in-depth response than that anticipated for routine technical support questions. In response to technical direction from the EPA WAM, the Contractor shall provide communication with step-by-step instructions to BASINS users in utilizing a particular function of the BASINS system.

In providing support, the Contractor shall adhere to the following procedures:

- Requests for BASINS support will be issued via written technical direction from the EPA WAM, where the EPA WAM has decided the request requires the Contractor’s efforts. Requests for support may arise from the BASINS Help email box, the BASINS listserve, or questions addressed individually to EPA staff.
- Contractor support will be supplied via phone, electronic mail, conference calls, or video calls. Contractor responses to questions posted on the BASINS Help email will send a copy back to the appropriate Help email for future reference. Responses by email will copy the EPA WAM.
- Requests for enhancement to the BASINS code or creation of custom BASINS data sets will be sent to the EPA WAM for approval prior to initiation of any such work.
- The Contractor will inform the EPA WAM of the nature of the technical support provided, as well as the result.

TASK 5: Perform Model and Tool Updates, Enhancements, and Bug Fixes

During the course of using the BASINS system, users will likely report program bugs and/or program enhancements that would facilitate use of the system. Under technical direction from the EPAWAM, the Contractor will code bug fixes and/or program enhancements. The updated BASINS component will be tested internally by the Contractor, and then sent to the EPA WAM to verify that it fixes the problem. Finally, the Contractor will provide the code update in the

form of revised BASINS extensions or other appropriate code delivery package. The Contractor shall also provide a write-up detailing the problems addressed by the program update, and provide instructions to users on how to update their existing program to include the enhancements.

Whenever BASINS is updated, the Contractor shall conduct internal testing before sending to EPA for further testing. The Contractor shall provide EPA with a report that documents the Contractor's quality assurance tests and activities conducted for the development of the enhancements.

TASK 6: Create and /or Edit User Documentation

The Contractor will update documentation of the BASINS system through the continued use of a hypertext document in the form of a compiled HTML help file. New documentation will cover any enhancements made to the system through this work assignment.

In some cases, the EPA WAM or Contractor will notice that a particular technical support question is routinely repeated. When this situation occurs, at the request of the EPA WAM through technical direction, the Contractor will create a concise written summary of the problem and solution.

In response to technical direction from the EPAWAM, the Contractor shall create technical documents for user requests requiring more in-depth responses. It is anticipated that these documents will be approximately five pages in length (no more than ten pages), contain tables, figures and/or multi-media functions. Examples of technical notes can be found on the BASINS web pages. Instructions might cover issues within the entire spectrum of BASINS use, such as model setup, calibration, process representation, report template development, review of models, and simulation of unusual or unique hydrologic and/or water quality conditions.

TASK 7: Support for BASINS web page

As enhancements are made to BASINS, the Contractor will need to review the web page to make sure that the changes are accurately reflected and that the software is provided in the right format.

DELIVERABLE SCHEDULE

Task	Deliverable	Date
Task 1	Schedule kick-off meeting	Upon work assignment start date
Task 1	Hold kick-off meeting	Within 5 days of start date
Task 2	Draft QAPP	Per direction of EPA WAM
Task 2	Final QAPP	In accordance with contract requirements
Task 3	Work Plan	In accordance with contract requirements
Task 3	Progress Reports	Monthly throughout the performance period
Task 4	Once technical direction is received and services are rendered, the Contractor shall provide an email describing the issue, support provided and results	Within 5 days after conclusion of each technical direction
Task 5	Develop and test code for bug fixes or enhancements	Within 30 days from technical direction
Task 5	Provide the code update in the form of revised BASINS extensions or other appropriate code delivery package	Within 15 days from technical direction
Task 5	Write-up detailing the problems addressed by the program update, and provide instructions to users on how to update their existing program to include the enhancements	Within 10 days from technical direction
Task 5	QA report	Within 3 days of internal testing
Task 5	Release enhancements into live environment	Within 15 days from technical direction
Task 6	Draft version of user documentation	Within 30 days from technical direction
Task 6	Final version of user documentation	Within 15 days from EPA WAM review
Task 7	Email with comments following review of web pages	Within 10 days from technical direction

Travel

Non-local travel by the contractor employees and/or subcontractors will be required to support the scope of this work assignment (e.g., site visits and public meetings). The contractor shall provide specific travel details and costs in a request for travel approval by the EPA WAM and the EPA Project Officer (PO) before each trip occurs (as specified by the contract per clause H.32).

Event Expenses Not to Exceed \$20,000

No single event under this Work Assignment is anticipated to exceed \$20,000. The Contractor shall immediately notify the EPA Contracting Officer, PO and WAM of any anticipated event involving support for a meeting, conference, workshop, symposium, retreat, seminar or training that may potentially incur \$20,000 or more in cost during performance. Conference expenses are all direct and indirect costs paid by the government and include any associated authorized travel and per diem expenses, room charges for official business, audiovisual use, light refreshments, registration fees, ground transportation and other expenses as defined by the Federal Travel Regulations. All outlays for conference preparation should be included, but the federal employee time for conference preparation should not be included. After notifying EPA of the potential to reach this threshold, the Contractor shall not proceed with the task(s) until authorized to do so by the Contracting Officer.

Confidential Business Information

During the course of the work assignment, the contractor may be accessing and evaluating CBI. The contractor shall, at all times, adhere to Confidential Business Information (CBI) procedures when handling industry information. The contractor shall manage all reports, documents, and other materials and all draft documents developed under this work assignment in accordance with the procedures set forth in the "Security Plan for Handling Confidential Business Information Under the Clean Water Act" (September 2002) or its successor approved plans.

Identification as Contracting Staff

To avoid the perception that contractor personnel are EPA employees, contractor personnel shall be clearly identified as independent contractors of EPA when participating in events with outside parties and visiting field sites. When speaking with the public the contractor should refer all interpretations of policy to the EPA WAM.

Limitation of Contractor Activities

The contractor shall submit drafts of all deliverables to the EPA WAM for review prior to submission of the final product. The contractor shall incorporate all EPA WAM comments into all final deliverables, unless otherwise agreed upon by the EPA WAM. The contractor will adhere to all applicable EPA management control procedures as implemented by the EPA Contracting Officer (CO), PO, and WAM.

Deliverable Due Dates

For the purpose of developing this work plan, the contractor shall assume the deliverable due dates in the tables for each task presented further. Major technical deliverables shall be subject to internal contractor peer review by an expert(s) not directly involved in the mainstream Work Assignment tasks. Deliverables will be prepared with proper adherence to EPA style and format requirements.

EPA United States Environmental Protection Agency Washington, DC 20460 Work Assignment						Work Assignment Number 1-52				
						<input type="checkbox"/> Other <input type="checkbox"/> Amendment Number:				
Contract Number EP-C-12-021			Contract Period 09/26/2012 To 09/25/2014 Base Option Period Number 1			Title of Work Assignment/SF Site Name BASINS Support and Maintenance				
Contractor EASTERN RESEARCH GROUP, INC.					Specify Section and paragraph of Contract SOW See PWS					
Purpose: <input checked="" type="checkbox"/> Work Assignment <input type="checkbox"/> Work Assignment Close-Out <input type="checkbox"/> Work Assignment Amendment <input type="checkbox"/> Incremental Funding <input checked="" type="checkbox"/> Work Plan Approval						Period of Performance From 09/26/2013 To 09/25/2014				
Comments:										
<div style="display: flex; justify-content: space-between;"> <input type="checkbox"/> Superfund Accounting and Appropriations Data <input checked="" type="checkbox"/> Non-Superfund </div>										
Note: To report additional accounting and appropriations data use EPA Form 1900-69A.										
SFO <input type="checkbox"/> (Max 2)										
Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1										
2										
3										
4										
5										
Authorized Work Assignment Ceiling										
Contract Period:		Cost/Fee: \$0.00		LOE: 0						
09/26/2012 To 09/25/2014										
This Action:		\$50,801.00		333						
Total:		\$50,801.00		333						
Work Plan / Cost Estimate Approvals										
Contractor WP Dated: 11/05/2013		Cost/Fee: \$50,801.00		LOE: 333						
Cumulative Approved:		Cost/Fee: \$50,801.00		LOE: 333						
Work Assignment Manager Name Rosaura Conde <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>						Branch/Mail Code: Phone Number 202-566-1514 FAX Number:				
Project Officer Name Meghan Hessenauer <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>						Branch/Mail Code: Phone Number: 202-566-1040 FAX Number:				
Other Agency Official Name <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>						Branch/Mail Code: Phone Number: FAX Number:				
Contracting Official Name Brad Heath <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>						Branch/Mail Code: Phone Number: 513-487-2352 FAX Number:				

EPA United States Environmental Protection Agency Washington, DC 20460 Work Assignment						Work Assignment Number 1-52				
						<input type="checkbox"/> Other <input checked="" type="checkbox"/> Amendment Number: 000001				
Contract Number EP-C-12-021			Contract Period 09/26/2012 To 09/25/2014			Title of Work Assignment/SF Site Name				
			Base Option Period Number 1			BASINS Support and Maintenance				
Contractor EASTERN RESEARCH GROUP, INC.					Specify Section and paragraph of Contract SOW See PWS					
Purpose: <input type="checkbox"/> Work Assignment <input type="checkbox"/> Work Assignment Close-Out <input checked="" type="checkbox"/> Work Assignment Amendment <input type="checkbox"/> Incremental Funding <input type="checkbox"/> Work Plan Approval					Period of Performance From 06/13/2014 To 09/25/2014					
Comments:										
<input type="checkbox"/> Superfund Accounting and Appropriations Data <input checked="" type="checkbox"/> Non-Superfund										
Note: To report additional accounting and appropriations data use EPA Form 1900-69A.										
SFO (Max 2) <input type="checkbox"/>										
Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1										
2										
3										
4										
5										
Authorized Work Assignment Ceiling										
Contract Period:		Cost/Fee:			LOE:					
09/26/2012 To 09/25/2014										
This Action:										
Total:										
Work Plan / Cost Estimate Approvals										
Contractor WP Dated:				Cost/Fee:			LOE:			
Cumulative Approved:				Cost/Fee:			LOE:			
Work Assignment Manager Name Rosaura Conde							Branch/Mail Code:			
_____ (Signature) (Date)							Phone Number 202-566-1514			
							FAX Number:			
Project Officer Name Meghan Hessenauer							Branch/Mail Code:			
_____ (Signature) (Date)							Phone Number: 202-566-1040			
							FAX Number:			
Other Agency Official Name							Branch/Mail Code:			
_____ (Signature) (Date)							Phone Number:			
							FAX Number:			
Contracting Official Name Brad Heath							Branch/Mail Code:			
_____ (Signature) (Date)							Phone Number: 513-487-2352			
							FAX Number:			

**PERFORMANCE WORK STATEMENT
CONTRACT EP-C-12-021
WORK ASSIGNMENT 1-52
AMENDMENT 1**

TITLE: BASINS Support and Maintenance

WORK ASSIGNMENT MANAGER: Rosaura Conde
(WAM) Phone: 202-566-1514
E-mail: conde.rosaura@epa.gov

ALTERNATE WAM: Rajbir Parmar
Phone: 706-355-8306
E-mail: parmar.rajbir@epa.gov

PERIOD OF PERFORMANCE: June 13, 2014 through September 25, 2014

BACKGROUND

BASINS (Better Assessment Science Integrating point and Nonpoint Sources) is a multipurpose environmental analysis system designed for regional, state, and local agencies that perform watershed and water quality-based studies. This system makes it possible to quickly assess large amounts of point and non-point source data in a format that is easy to use and understand. Installed on a personal computer, BASINS allows the user to assess water quality at selected stream sites or throughout an entire watershed. This invaluable tool integrates environmental data, analytical tools, and modeling programs to support cost-effective approaches to watershed management and environmental protection, including the development of Total Maximum Daily Loads (TMDLs).

BASINS can be accessed at: <http://water.epa.gov/scitech/datait/models/basins/index.cfm>.
Documentation of where BASINS data is hosted will be provided upon request.

PURPOSE

The purpose of this work assignment is to:

- Provide support to user community, primarily by responding to inquiries received through inbox.
- Maintain BASINS current by fixing program bugs and/or developing program enhancements to facilitate use.

* Note that EPA is in the process of releasing BASINS 4.1. This new version was done by AQUA TERRA under a separate task order (EPA Contract #EP-G12C-00269).

SPECIALIZED SKILLS

The Contractor shall provide experts who are experienced in using BASINS and have a thorough understanding of its operation and the models contained within the system. In particular expertise shall be available in the following:

Models: HSPD, DFLOW, SWAT, PLOAD, WASP, SWMM, and GWLF – expertise on model setup, calibration, data sources, and model output interpretation.

GIS: ArcView, ArcGIS, and MapWindow software; GIS data; metadata and incorporation of user-supplied data.

Systems: Using BASINS and its components under Windows XP, and Windows 7, and Windows Vista operating systems.

Utilities: WDM Utility, HSPFParm, HSPF Expert System, WinHSPF, Bacteria spreadsheet, GenScn, and PEST driver.

Programming: Object-oriented programming such as Visual Basic, C+, C#, .NET, Active X, FORTRAN, and other languages.

The Contractor must also have experience working to publish updates to a system in EPA's servers and web environment.

TASKS (for amendment)

TASK 5: Perform Model and Tool Updates, Enhancements, and Bug Fixes

During the course of using the BASINS system, users will likely report program bugs and/or program enhancements that would facilitate use of the system. Under technical direction from the EPAWAM, the Contractor will code bug fixes and/or program enhancements. The updated BASINS component will be tested internally by the Contractor, and then sent to the EPA WAM to verify that it fixes the problem. Finally, the Contractor will provide the code update in the form of revised BASINS extensions or other appropriate code delivery package. The Contractor shall also provide a write-up detailing the problems addressed by the program update, and provide instructions to users on how to update their existing program to include the enhancements.

Whenever BASINS is updated, the Contractor shall conduct internal testing before sending to EPA for further testing. The Contractor shall provide EPA with a report that documents the Contractor's quality assurance tests and activities conducted for the development of the enhancements.

ACTIVITY 1 – Assigning, Mapping, and Registering NLDAS MET or Observed Monitored MET Stations with HSPF/BASINS

The SDMPProjectBuilder shall be modified to automate the process of assigning/mapping NLDAS or Observed MET stations (user choice) to the “centroids” or closest location of the subwatersheds. When imported to HSPF, these MET stations will already be correlated to the subwatersheds, so the user will not need to perform the mapping. Once the NLDAS radar MET data (including hourly increments) are assigned to the subwatersheds as part of the SDMPProjectBuilder WinHSPF workflow, the MET data associated with each subwatershed will be collated into a single WDM file and added to the HSPF/BASINS project, thus automatically registering them in HSPF/BASINS.

Deliverable: A memorandum documenting the requirements, design, specifications, and testing of software modifications associated with the assigning, mapping, and registration of MET stations for use by HSPF and within BASINS, where appropriate. Updated software, example case, and documentation on modifications to the SDMPProjectBuilder shall be captured. At least one example will include Manitowoc River Basin. The deliverables will be archived in a mutually agreed upon location and will be completed no later than four weeks after amendment approval.

ACTIVITY 2: SDMPProjectBuilder – Microbial Source Module Interactions

Add a new button titled "Edit source terms" to SDMPProjectBuilder GUI. The button is visible only if the Microbial simulation checkbox has been checked; if the user unchecks the checkbox the button becomes invisible. If the user clicks the button, the following happens:

- A shape file gets created from the comma delimited animal-count or septic text file. The interface provides a file open dialog for the user to select the animal-counts or septic text file. The shape file name (excluding extension) should be same as the comma delimited animal-count or septic text file. If a shape file with the same name already exists, then it gets overwritten.
- A shape file get created with the location of other point sources, which are associated with the subwatershed stream reach (e.g., (e.g., POTW, WWTP, WTP, Other), although they would not available for editing.
- A GIS map interface appears with background layers (HUC8, HUC12, NHD+ catchments, and stream network, etc.) along with the point shape file of animal counts or number of septic created above.
- The location of other point sources, which are associated with the subwatershed stream reach (e.g., (e.g., POTW, WWTP, WTP, Other), should be accounted for and displayed on the map, although they would not available for editing.

The map interface allows the user to perform the following functions:

- Create a new farm by clicking on the map. A point representing the newly added farm appears on the map along with the table editor allowing the user to enter animal counts for the newly added farm and/or the number of septic.
- Delete an existing farm (animal counts and septic) on the map.
- Edit number of animals for a farm on the map and/or the number of septic.
- Save the changes. Saving replaces the existing comma delimited animal and septic text file with the newly created comma delimited animal and septic text file from the shape

file. If the user decides not to save changes, then the existing comma delimited animal and septic text file remains unchanged.

The rest of the SDMPProjectBuilder work flow remains unchanged. The intention is to use the same GUI for WinHSPF and BASINS at a later date, so the design should be for maximum reusability. Point sources and septic location information will be used by an enhanced Microbial Source Module; enhancements to the Microbial Source Module are not included in this activity.

Deliverable: Updated software, example case, and documentation on modifications associated with the SDMPProjectBuilder. At least one example will include Manitowoc River Basin. The deliverables will be archived in a mutually agreed upon location. The deliverables will be completed no later than 12 weeks after amendment approval.

ACTIVITY 3: Identifying Instream Locations, Upstream of the Watershed Pour Point

There is a need to identify intermediate instream locations within the watershed, upstream of the watershed pour point, where instream-model output is desired. To ensure that these intermediate locations are captured in the watershed delineation, a feature shall be added to SDMPProjectBuilder to create subwatershed boundaries (i.e., matching these instream location) corresponding to user-specified points on the stream network. The exact location of these intermediate points may be adjusted, where necessary, to be compatible with the watershed delineation. From these subwatershed boundaries, the user may choose to simulate only a subset of the entire watershed to the pour point. If delineating a portion of the watershed that does not go to the watershed divide, then include an option to have an upstream, instream boundary condition (flow and contaminant loadings) defined by the user. The data associated with these intermediate points will be captured so as to be passed to any downstream models that may want to access to and consume the data. The user-specified locations, upstream of the pour point, shall be documented in the appropriate WDM file that captures the flow and concentration output.

Deliverable: A memorandum documenting the requirements, design, specifications, and testing of software modifications associated with the SDMPProjectBuilder and any associated files, where appropriate. The deliverables will be completed no later than 4 months after amendment approval.

ACTIVITY 4: Chemical Functionality

Develop the ability to automate and demonstrate the assessment process for setting up and implementing an assessment for a land applied chemical such as bromide or Diazinon. The HSPF simulation created through the SDMPProjectBuilder will be enhanced to include simulation of this chemical. Representative DICs shall be developed that build upon previous work performed under the Albermarle-Pamlico Estuary System (APES) assessment (Johnston et al. 2013), which accounted for nitrogen, phosphorus, Hg, etc.

Deliverable: Updated software, example case, and documentation on modifications associated with the SDMPProjectBuilder, HSPF, BASINS, and FRAMES, where applicable. At least one example will include Manitowoc River Basin. The deliverables will be archived in a mutually agreed upon location. The deliverables will be completed no later than 4 months after amendment approval.

ACTIVITY 5: HSPF Pre- and Post-Wrappers in FRAMES

Support modifications to the HSPF wrappers in FRAMES to account for updated information associated with the new DICs used in the MSTR Domain [e.g., different time increments (e.g., hours, days, months, etc.) and microbial and chemical parameters, etc.].

- Update the HSPF pre-wrapper to read the new FRAMES-based DICs (SDMQMRA, MicrobeHSPFInput), where appropriate, using the FRAMES API and populate the UCI and other files, where appropriate, with these data. This activity will be consistent and coordinated with the development by EPA of the Microbial Source Module.
- Update the HSPF post-wrapper to write output to the new HSPF DICs (WatershedOutMSTR, RiverHydro, and InstreamMicrobeDen), where appropriate, using the FRAMES API.

Deliverable: Updated software, example case, and documentation on modifications to the HSPF Wrappers. At least one example will include Manitowoc River Basin. The deliverables will be archived in a mutually agreed upon location. The deliverables will be completed no later than 4 months after amendment approval.

ACTIVITY 6: Publish SDMProjectBuilder Data for SDM Consumption

Information corresponding to the following Dictionaries, where applicable, will be published by the SDMProjectBuilder in a mutually agreed upon form and located in a mutually agreed upon folder structure on the host PC for consumption by the FRAMES-based SDM: SDMQMRA, MicrobeHSPFInput, WatershedOutMSTR, RiverHydro, and InstreamMicrobeDen, and other relevant DICs.

Deliverable: Updated software, example case, and documentation on modifications to the SDMProjectBuilder. At least one example will include Manitowoc River Basin. The deliverables will be archived in a mutually agreed upon location. The deliverables will be completed no later than 4 months after amendment approval.

ACTIVITY 7: Consistency Checks and Technical Support between SDMProjectBuilder, WinHSPF, BASINS, and FRAMES

In support of interoperability, consistency between and technical support associated with the following aspects of SDMProjectBuilder, WinHSPF, BASINS, and FRAMES shall be addressed:

- BASINS and SDMProjectBuilder map layers are often rendered differently; the effort shall ensure that the rendering and layer naming are consistent.
- Potential contradictions shall be addressed between the minimum flowline length and minimum catchment size in SDMProjectBuilder and what actually appears in BASINS.
- The user shall have the ability to save the state of SDMProjectBuilder and recall the problem statement for editing purposes, as is currently available in BASINS.
- Technical support shall be provided, where appropriate,
 - to help ensure HSPF and WASP communicate within FRAMES.
 - for trouble shooting and testing HSPF, WASP, and BASINS communication and applications.

- to help move the stand-alone alpha versions of SDMPB, MSM, HSPF, and BASINS to a Beta version and help ensure that HSPF and MSM communicate properly and run within FRAMES.
- to help ensure HSPF and AQUATOX, and possibly WASP can communicate outside and inside of FRAMES.

Deliverable: A memorandum documenting the requirements, design, specifications, and testing of software modifications associated with this effort, where appropriate. The deliverables will be completed no later than 8 months after amendment approval.

DELIVERABLE SCHEDULE

Task	Deliverable	Date
Task 5, Activity 1	<ul style="list-style-type: none"> A memorandum documenting the requirements, design, specifications, and testing of software modifications associated with the assigning, mapping, and registration of MET stations for use by HSPF and within BASINS, where appropriate. Updated software, example case, and documentation on modifications to the SDMPProjectBuilder shall be captured. At least one example will include Manitowoc River Basin. 	Within 4 weeks of amendment approval
Task 5, Activity 2	<ul style="list-style-type: none"> Updated software, example case, and documentation on modifications associated with the SDMPProjectBuilder. At least one example will include Manitowoc River Basin. 	The deliverables will be completed no later than 12 weeks after amendment approval.
Task 5, Activity 3	A memorandum documenting the requirements, design, specifications, and testing of software modifications associated with the SDMPProjectBuilder and any associated files, where appropriate.	The deliverables will be completed no later than 4 months after amendment approval
Task 5, Activity 4	Updated software, example case, and documentation on modifications associated with the SDMPProjectBuilder, HSPF, BASINS, and FRAMES, where applicable. At least one example will include Manitowoc River Basin. The deliverables will be archived in a mutually agreed upon location.	The deliverables will be completed no later than 4 months after amendment approval.
Task 5, Activity 5	<ul style="list-style-type: none"> Updated software, example case, and documentation on modifications to the HSPF Wrappers. At least one example will include Manitowoc River Basin. 	The deliverables will be completed no later than 4 months after amendment approval.
Task 5, Activity 6	<ul style="list-style-type: none"> Updated software, example case, and documentation on modifications to the SDMPProjectBuilder. At least one example will include Manitowoc River Basin. 	The deliverables will be completed no later than 4 months after amendment approval.
Task 5, Activity 7	A memorandum documenting the requirements, design, specifications, and testing of software modifications associated with this effort, where appropriate.	The deliverables will be completed no later than 4 months after amendment approval.

EPA United States Environmental Protection Agency Washington, DC 20460 Work Assignment						Work Assignment Number 1-52				
						<input type="checkbox"/> Other <input checked="" type="checkbox"/> Amendment Number: 000001				
Contract Number EP-C-12-021			Contract Period 09/26/2012 To 09/25/2014			Title of Work Assignment/SF Site Name				
			Base Option Period Number 1			BASINS Support and Maintenance				
Contractor EASTERN RESEARCH GROUP, INC.					Specify Section and paragraph of Contract SOW See PWS					
Purpose: <input type="checkbox"/> Work Assignment <input type="checkbox"/> Work Assignment Close-Out <input checked="" type="checkbox"/> Work Assignment Amendment <input type="checkbox"/> Incremental Funding <input checked="" type="checkbox"/> Work Plan Approval					Period of Performance From 06/13/2014 To 09/25/2014					
Comments:										
<input type="checkbox"/> Superfund Accounting and Appropriations Data <input checked="" type="checkbox"/> Non-Superfund										
Note: To report additional accounting and appropriations data use EPA Form 1900-69A.										
SFO <input type="checkbox"/> (Max 2)										
Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1										
2										
3										
4										
5										
Authorized Work Assignment Ceiling										
Contract Period:		Cost/Fee: \$50,801.00		LOE: 333						
09/26/2012 To 09/25/2014										
This Action:		\$59,200.00		399						
Total:		\$110,001.00		732						
Work Plan / Cost Estimate Approvals										
Contractor WP Dated: 07/01/2014		Cost/Fee: \$59,200.00		LOE: 399						
Cumulative Approved:		Cost/Fee: \$110,001.00		LOE: 732						
Work Assignment Manager Name Rosaura Conde						Branch/Mail Code:				
_____ (Signature) (Date)						Phone Number 202-566-1514				
						FAX Number:				
Project Officer Name Meghan Hessenauer						Branch/Mail Code:				
_____ (Signature) (Date)						Phone Number: 202-566-1040				
						FAX Number:				
Other Agency Official Name						Branch/Mail Code:				
_____ (Signature) (Date)						Phone Number:				
						FAX Number:				
Contracting Official Name Brad Heath						Branch/Mail Code:				
_____ (Signature) (Date)						Phone Number: 513-487-2352				
						FAX Number:				

EPA United States Environmental Protection Agency Washington, DC 20460 Work Assignment						Work Assignment Number 1-53				
						<input type="checkbox"/> Other <input type="checkbox"/> Amendment Number:				
Contract Number EP-C-12-021			Contract Period 09/26/2012 To 09/25/2014 Base Option Period Number 1			Title of Work Assignment/SF Site Name NPDES Vessel Considerations				
Contractor EASTERN RESEARCH GROUP, INC.					Specify Section and paragraph of Contract SOW See PWS					
Purpose: <input checked="" type="checkbox"/> Work Assignment <input type="checkbox"/> Work Assignment Close-Out <input type="checkbox"/> Work Assignment Amendment <input type="checkbox"/> Incremental Funding <input type="checkbox"/> Work Plan Approval						Period of Performance From 01/31/2014 To 09/25/2014				
Comments:										
<div style="display: flex; justify-content: space-between;"> <input type="checkbox"/> Superfund Accounting and Appropriations Data <input checked="" type="checkbox"/> Non-Superfund </div>										
Note: To report additional accounting and appropriations data use EPA Form 1900-69A.										
SFO (Max 2) <input type="checkbox"/>										
Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1										
2										
3										
4										
5										
Authorized Work Assignment Ceiling										
Contract Period:		Cost/Fee:			LOE:					
09/26/2012 To 09/25/2014										
This Action:										
Total:										
Work Plan / Cost Estimate Approvals										
Contractor WP Dated:				Cost/Fee:			LOE:			
Cumulative Approved:				Cost/Fee:			LOE:			
Work Assignment Manager Name Ryan Albert <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>							Branch/Mail Code: Phone Number 202-564-0763 FAX Number:			
Project Officer Name Meghan Hessenauer <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>							Branch/Mail Code: Phone Number: 202-566-1040 FAX Number:			
Other Agency Official Name <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>							Branch/Mail Code: Phone Number: FAX Number:			
Contracting Official Name Brad Heath <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>							Branch/Mail Code: Phone Number: 513-487-2352 FAX Number:			

Contract No.: EP-C-12-021
Work Assignment: WA 1-53

1. **Title:** **NPDES Vessel Regulatory Considerations**
2. **Work Assignment Manager:** Ryan Albert
Office of Wastewater Management
OW/OWM/WRD/IB, 4203M
1200 Pennsylvania Avenue, N.W.
Washington, DC 20460
Tel: (202) 564-0763
Fax: (202) 566-6392
E-mail: albert.ryan@epa.gov

Alternate Work Assignment Mgr: Kathryn Kelley
Office of Wastewater Management
OW/OWM/WRD/IB, 4203M
1200 Pennsylvania Avenue, N.W.
Washington, DC 20460
Tel: (202) 564-7004
Fax: (202) 566-6392
E-mail: kelley.kathryn@epa.gov
3. **Level of Effort Estimate:** The level of effort estimate for this work assignment is a total of 6200 hours split into two phases. The first phase is 3200 hours, followed by the second phase of 3000 hours. Some tasks started in Phase 1 may continue in Phase 2.
4. **Period of Performance:** Effective Date through September 26, 2014
5. **General Work Assignment Requirements:**
 - A. Confidential Business Information: The Contractor will, at all times, adhere to Confidential Business Information (CBI) procedures, including those requirements listed at 40 CFR Part 2, when handling industry information that the EPA Work Assignment Manager (WAM) identifies as CBI. When noted as necessary by the EPA WAM, the Contractor will manage specified reports, documents, and other materials, as well as specified draft documents developed under this WA in accordance with the procedures set forth in its "Security Plan for Handling Confidential Business Information Under the Clean Water Act (CWA)," dated March 5, 2004 or its successor approved plans.

- B. Identification as Contracting Staff: To avoid the perception that Contractor personnel are EPA employees, Contractor personnel shall be clearly identified as independent Contractors of EPA when participating in events with outside parties and visiting field sites. When speaking with the public the Contractor should refer all interpretations of policy to the EPA WAM.
- C. Limitation of Contractor Activities: The Contractor shall submit drafts of all deliverables to the EPA WAM and alternate EPA WAM for review. The Contractor shall incorporate all EPA WAM comments into the final deliverables, unless otherwise agreed upon by the EPA WAM. The Contractor shall adhere to all applicable EPA management control procedures as implemented by the EPA Contracting Officer (CO), Project Officer (PO), and WAM.
- D. Compliance with Section 508 Requirements: Section 508 of the Rehabilitation Act mandates that all Federal departments and agencies make electronic and information technology accessible to individuals with disabilities. This includes all individuals with disabilities wishing to access Federal information. EPA is committed to making every possible effort to ensure that all electronic and information technology developed, procured, maintained, or used by EPA is accessible to all persons with disabilities. Consequently, according to the contract clause "EPAAR 1552.2119-79: Compliance with EPA Policies for Information Resources Management," all deliverables submitted by the Contractor shall be compliant with the Section 508 requirements.
- E. Travel: When travel outside of the local area becomes necessary in support of this WA, a travel authorization must be submitted to and approved by the EPA WAM and the EPA Project Officer prior to the travel taking place. All travel shall be in accordance with FAR 31.205-46.
- F. Draft and Deliverable format: All memos, draft comments, summaries and responses are to be provided electronically in Microsoft Word and/or Excel. The Contractor shall clearly specify the methods, procedures, considerations, assumptions, relevant citations, data sources and data that support their conclusions. EPA will review all outputs in draft form, and the Contractor shall incorporate the changes specified by EPA prior to providing a final version. All final materials, e.g., memos, tables, spreadsheets, etc. are to be prepared only after incorporating comments on draft documents provided by the EPA WAM.
- G. Meetings and Conferences: No single event under this Work Assignment is anticipated to exceed \$20,000. The Contractor shall immediately notify the EPA Contracting Officer, PO and WAM of any anticipated event involving support for a meeting, conference, workshop, symposium, retreat, seminar or training that may potentially incur \$20,000 or more in cost during performance. Conference expenses are all direct and indirect costs paid by the government and include any associated authorized travel and per diem expenses, room

charges for official business, audiovisual use, light refreshments, registration fees, ground transportation and other expenses as defined by the Federal Travel Regulations. All outlays for conference preparation should be included, but the federal employee time for conference preparation should not be included. After notifying EPA of the potential to reach this threshold, the Contractor shall not proceed with the task(s) until authorized to do so by the Contracting Officer.

PHASE 1: Level of Effort 3200 hours

Task 1: Project Management

The Contractor shall prepare a work plan for all phases of the work assignment within 21 calendar days of receipt of WA. The work plan shall present the technical approach by task; the project schedule and deliverables; staffing details; level of effort by task, staff member, and professional labor mix; and the estimated budget.

The Contractor shall provide electronic copies of the monthly progress reports to the EPA Project Officer (PO) and WAM. Each progress report shall describe the technical work and expenditures for the same time period as the corresponding invoice. The reports shall list by task the amount of work completed and include a table of hours by personnel for each task. The reports also shall identify any problems or difficulties. Quarterly, the reports shall include a QA section that summarizes QA steps taken in the performance of work during the reporting period.

The Contractor shall submit an email that proposes a standardized naming convention and version control for all deliverables associated with the WA. This system will ensure that deliverables are clearly named and dated and that the sequence of versions of a document is clear. The EPA WAM will review the email and then provide the contractor with written notification of approval or edits that need to be made. After receiving notification of approval the contractor shall use this standardized convention for all deliverables associated with the work assignment(s).

The Contractor shall immediately notify the EPA WAM by telephone of any problems that may impede performance, along with any corrective actions needed to solve the problems.

Task 1 - Deliverables:

1 – 1.0 - Work plan and budget: Within 21 days of receipt of work assignment

1 – 2.0 – Progress/budget reports: Included in the Monthly Technical and Cost Progress Report

1 – 3.0 - Problem report: Contractor shall notify the EPA WAM immediately upon discovery of a problem.

Task 2: Develop the Quality Assurance Project Plan

The Contractor shall prepare a Quality Assurance Project Plan (QAPP) documenting how quality assurance and quality control will be applied to the collection and use of environmental data. As requested by EPA, the contractor shall update the QAPP if necessary during this option year.

The QAPP will be used to assure that any results obtained are of the type and quality needed and expected. The QAPP shall address the collection and use of wastewater sampling data, facility questionnaire data, any models to be used, and secondary data (including the acceptance criteria), and any new database management requirements. The QAPP must describe the controls to ensure high-quality data entry. The text of the QAPP also must explicitly reference tools that the contractor will use to document and review reproducibility and traceability, such as SOPs, check lists, and guidelines. The QAPP must include the tools as attachments for EPA's review and approval. In addition, the contractor shall document relevant QA activities in any major deliverable.

Task 2 - Deliverables:

2 - 1.0 - Draft QAPP: A QAPP will be submitted within 30 days of request by EPA. The Contractor must receive technical direction from the WAM to begin development of these QAPPs. For tasks that do not involve the generation, management, distribution, or use of primary or secondary environmental data that will be used or have the potential for use in environmental decision making, a QAPP is not required

2- 2.0 - Final QAPP: A final QAPP is due within 14 days from receipt of EPA WAM's comments (which shall incorporate comments from the WPD QA officer).

Task 3: Evaluate options for managing ballast water for small vessels, focused on options for vessels entering and traversing the Great Lakes

Inland and Seagoing Vessels less than 1600 gross registered tons (3000 gross tons) are not required to meet the numeric treatment limits in Section 2.2.3.5 of the Final VGP. An inland vessel means a vessel that operates exclusively on inland waters. EPA encouraged vessels in this size class to use alternate measures to reduce the number of living organisms in their ballast water discharges, including use of those measures found in Part 2.2.3.5 of the VGP and use of onboard potable water generators. However, EPA did not feel comfortable mandating these requirements because the Agency did not have sufficient information about the availability and efficacy of these management approaches for these vessels. EPA concluded that, though technologies are promising for future development, they did not support the conclusion that numeric ballast water treatment limits for small inland and seagoing vessels represents BAT at this time or over the life of the permit. For example, most ballast water treatment systems have been designed for larger vessels and/or vessels which only uptake or discharge ballast water on

either end of longer voyages and the record at proposal contained no evidence that any vessels smaller than 1600 GRT had successfully installed a treatment systems on their vessel. Supplemental analysis by the Agency confirmed the conclusion that the ballast water numeric limits did not reflect BAT for this class of vessels.

Some smaller vessels, because of their unique designs and operations might be able to use onboard potable water for ballasting. This is particularly true for vessels that use ballast to compensate for fuel burn off and sewage generation. This task is designed to thoroughly evaluate whether such systems can be used as an effective form of ballast water management for these vessels, and if so, whether they are environmentally effective.

EPA notes that products from subtasks A, B, and C may ultimately be combined to form one large report, or that information from these reports may be consolidated for other Agency initiatives.

Subtask 3A: The contractor shall develop feasibility studies for placement of onboard potable water generators with actual vessel designs. The designs will be for 1-4 vessel types, and may include various small vessel types such as tug boats, small to medium cruise ships, research vessels (such as EPA's bold), etc. The designs should contemplate actual potable water generators placed onboard actual vessel designs, and should be drawn up with the intention for ultimate public release. EPA will work with vessel operators to gain ideas for ideal vessel designs.

Subtask 3A - Deliverables:

3A - 1.0 – Analysis approach: Within 15 days of receiving technical direction from the WAM, the contractor shall provide a short plan describing how the contractor intends to accomplish the goals of subtask 10a, including outlining the vessel and potable water generators to be used in the design.

3A – 2.0 – Draft report: Within 60 days of receiving technical direction from the WAM to proceed, a draft report with tentative design elements for the various vessel and potable water types.

3A - 3.0 – Final Report: Within 30 days of receiving comments and technical direction from the WAM, a final report with designs outlining the feasibility of using potable water generators onboard smaller vessels.

Subtask 3B: The contractor shall develop a short description and analysis looking at the range of potable water generators available, their production capacity, how they operate, and their cost.

Subtask 3B - Deliverables:

3B – 1.0 – Draft report: Within 30 days of technical direction from the WAM, a draft report discussing the range of potable water generators available, their production capacity, how they operate, and their capital and operational costs. This product should compare the estimated costs to existing ballast water treatment systems that would have undergone foreign or U.S. type approval.

3B – 2.0 – Final Report: Within 14 days of receiving comments and technical direction from the WAM, a final report discussing the characteristics of potable water generators outlined above.

Subtask 3C: The contractor shall conduct bench or land-based testing with a potable water generator to evaluate its efficacy for preventing the discharge of living organisms from ballast water tanks. EPA will work with the contractor on developing the study design, including specifying the number of replicates and methods to be used. Any testing must be conducted by facilities with experience quantifying the number of living organisms in effluent. Depending on the location or facility site selected, this task could require non-local travel by the contractor.

Subtask 3C - Deliverables:

3C - 1.0 – Study Design: Within 30 days of receiving technical direction from the WAM, the contractor shall provide a study design describing how the goals of subtask 3C will be accomplished, including outlining the methods which will be used, facilities used to accomplish the tasks, how the research approach is generally consistent with other bench scale or lab based results. The study design shall include QA/QC elements consistent with Task 12.

3C - 2.0 – Laboratory Reports: All laboratory reports from sampling shall also be provided directly to the WAM immediately upon their completion.

3C – 3.0 – Draft report: Within 30 days of receiving the final laboratory report, a draft report discussing the environmental performance of the potable water generator in terms of reducing the number of living organisms and the discharge of any residual biocides, byproducts, or derivatives.

3C - 4.0 – Final Report: Within 14 days of receiving comments and technical direction from the WAM, a final report discussing the environmental performance of the potable water generator.

Subtask 3D: Accountability and relevance to the Great Lakes

Protecting the Great Lakes from the introduction of new invasive species is one of the priorities of EPA and the Federal Government. Task 6 has been designed to meet these goals. Subtask D is designed to produce a short accountability report for how (and whether) this research has furthered EPA's goals on this front.

Subtask 3D - Deliverables:

3D - 1.0 – Accountability Report: Within 30 days of completing the final reports, a short description of how funds were used for subtasks A, B, and C (as applicable), how much was spent on each subtask, and why the work is directly relevant to the goal of preventing the introduction of new invasive species to the Great Lakes and slowing their dispersal pathways in those water bodies.

Task 4: Evaluate Laker Best Management Practice Efficacy

In the 2013 VGP, EPA has included several best management practices (BMPs) for Lakers to reduce the likelihood of those vessels dispersing and spreading aquatic invasive species. This task is designed to better estimate the efficacy of those mandatory management measures.

Subtask 4A: The contractor shall conduct a literature review of all best management practices outlined, and produce a summary of both the theoretical and experimental results examining these BMPs. This literature review might extrapolate from other fields in order to fill in significant information gaps (e.g., looking at screen design in terms of preventing colonization of mussel species in drinking water infrastructure).

Subtask 4A - Deliverables:

4A - 1.0 – Draft Literature review: Within 30 days of receiving technical direction from the WAM, the contractor shall provide EPA with a draft literature review discussing possible relevant sources of information.

4A – 2.0 – Final Literature Review: Within 30 days of receiving comments and technical direction from the WAM, a final literature review discussing any results relevant to Laker BMP efficacy.

Subtask 4B:

Based upon the results of the literature review, and contingent upon funding, the contractor shall conduct bench scale testing of specific Laker BMPs (e.g., examining how pumps induce mortality, whether maintained screens versus less maintained screens reduce living organism concentration) to evaluate their efficacy for reducing the discharge of living organisms from Laker ballast water tanks. EPA will work with the contractor on developing the study design, including specifying the number of replicates and methods to be used. Any testing must be conducted by facilities with experience quantifying the number of living organisms in effluent. Depending on the location or facility site selected, this task could require non-local travel by the contractor.

Subtask 4B - Deliverables:

4B - 1.0 – Study Design: Within 30 days of receiving technical direction from the WAM, the contractor shall provide a study design describing how the goals of subtask 11b will be accomplished, including outlining the methods which will be used, facilities used to accomplish the tasks, how the research approach is generally consistent with other studies. The study design shall include QA/QC elements consistent with Task 12.

4B - 2.0 – Laboratory Reports: All laboratory reports from sampling shall also be provided directly to the WAM immediately upon their completion.

4B – 3.0 – Draft report: Within 30 days of receiving the final laboratory report, a draft report discussing the environmental performance of Laker BMPs in terms of reducing the number of living organisms and the discharge of.

4B - 4.0 – Final Report: Within 14 days of receiving comments and technical direction from the WAM, a final report discussing the environmental performance of Laker BMPs.

Subtask 4C: Accountability and relevance to the Great Lakes

Protecting the Great Lakes from the introduction and spread of invasive species is one of the priorities of EPA and the Federal Government. Task 7 has been designed to meet these goals. Subtask C is designed to produce a short accountability report for how (and whether) this research has furthered EPA's goals on this front.

Subtask 4C - Deliverables:

4C - 1.0 – Accountability Report: Within 30 days of completing the final report, a short description of how funds were used for subtasks A and B (as applicable), how much was spent on each subtask, and why the work is directly relevant to the goal of reducing the spread of invasive species within the Great Lakes and slowing their dispersal pathways in those water bodies.

Task 5: Provide technical support to EPA in finalization of the 2013 Small Boat Vessel General Permit (sVGP)

Provide Technical Support in Compiling, Analyzing and Maintaining the Response to Comment Document

The contractor shall maintain the Response to Comments database (developed under a previous contract) that supports EPA in organizing comments and responses. The contractor shall coordinate drafting of responses based upon technical direction from EPA. These comments will be used to justify appropriate logical outgrowth in finalization of the sVGP.

Task 5 - Deliverables:

3B – 1.0 - Comment Response document: Within 14 days of being assigned specific comments, the Contractor shall draft responses to those comments. If the draft responses should exceed 50 pages in length, the responses will be due within 21 days of being assigned. If they should exceed 100 pages, the responses shall be due within 28 days of being assigned.

3B – 2.0 - Final Response document: Within 7 days of receiving comments from the EPA WAM, the Contractor shall provide the final response document.

PHASE 2: Level of effort 3000 hours

Tasks started under Phase I may continue under Phase II.

Task 6: Provide Technical Support to development of EPA's Vessel General Permitting Program

The Contractor shall support EPA's development of technical and factual materials for EPA use in implementing its Vessel General Permitting Program, including work for developing the factual information the next (2018) VGP. This support will primarily be focused around developing background information and effluent limits for the Vessel general permit, but may also include conducting research for other vessel related discharge issues.

Subtask 6A: The contractor shall refine as needed literature reviews, develop background materials, research technologies, and work with industry experts and government officials to develop a solid foundation for instituting national permit limits. The contractor may be asked to update existing technical development documents (TDDs) and produce 0-3 additional TDDs. After reviewing these sources of information, the contractor shall prepare 10 – 50 page technical memoranda (plus appendices with relevant data) describing the sources of information, key findings from those sources, technological capabilities and efficacy, cost information where relevant, and what conclusions, if any, can be drawn from this information. Once final, these TDDs shall be of sufficient quality to place in the docket and serve as part of the administrative record for decision making. Subject areas which may be researched include, but will not be limited to:

1. Ballast Water Treatment Options for Lakers
2. Ballast Water Treatment Options for Small Vessels
3. Other discharge types and treatment options as necessary

Within 14 days of receiving written technical direction from the EPA WAM to proceed, the contractor shall submit an annotated outline of the TDD and appendices identifying the information, conceptual approaches, and analyses, and scope of issues to be addressed in the technical memorandum. After approval by the EPA WAM, the Contractor shall prepare and submit a draft version of the TDD within 28 days. The Contractor shall submit the final TDD within 14 days of receiving technical comments from the EPA WAM.

EPA must turn on this task before work can begin.

Subtask 6A - Deliverables:

2A - 1.0 - Draft discharge types and systems TDDs: The Contractor shall provide draft TDDs describing different discharge types and systems. The number of

TDDs will be between 0 to 3 documents. The kinds of information and format of the draft TDDs and the number of draft TDDs will be determined by the WAM after discussion between the WAM and contractor.

2A - 2.0 - Final discharge types and systems TDDs: The Contractor shall provide final TDDs describing different discharge types and systems. The number of technical memoranda will be between 0 to 6 documents. The number of final TDDs will be determined by the EPA WAM after discussion between the EPA WAM and contractor.

Subtask 6B: The contractor shall support EPA in developing a study report on the effectiveness of oily water separators in treating bilgewater discharges. EPA is conducting a study on treated bilgewater discharges from large vessels to evaluate shipboard performance of the best treatment systems. The study will characterize treated bilgewater discharges and evaluate their impacts on the environment. These vessels may include, but are not limited to container vessels, bulk carriers or other large vessels. The report would be finalized, at the latest, by September 2014. EPA would use the results of this study to inform its work at the International Maritime Organization (IMO).

The study includes

- Characterization of the effluent concentrations of treated bilgewater discharges for representative vessels
- Determination of types of separators, polishing treatments, and oil content monitors used for representative vessels
- Determinations of the volumes of those discharges, including average volumes for
 - Representative single vessels and
 - Each class vessel
- Analyses and findings as to the nature and extent of the potential effects of the discharges, including determinations of whether those discharges pose a risk to human health, welfare, or the environment and the nature of risks;
- Determination of the benefits to human health, welfare, and the environment from reducing, eliminating, controlling, or mitigating the discharges.

The contractor shall

1. Prepare a draft, draft final and final study report which will involve supporting EPA in the statistical analysis of the data and analyzing the impacts of the discharge of surrounding environments for the worst case scenario.
2. Revise the report as needed

Subtask 6B - Deliverables:

6B - 1.0 - The contractor shall deliver the draft Report to the WAM 30 days after the final laboratory analysis has been completed.

6B - 2.0 - Within 10 days of receipt of EPA's comments, the contractor shall provide the WAM with a final report.

Task 7: Provide Technical Support in evaluating whether EPA's Obligations as a Result of the Successful ESA Endangered Species Act (ESA) Consultation for the sVGP and the VGP are Protecting the Great Lakes,

On November 28 and 29, 2012, EPA successfully concluded formal consultation with both Service Agencies. In consultation with the Services (NOAA and Fish and Wildlife Service (FWS)), EPA agreed to do some follow up implementation activities. These activities include periodically analyzing data received by the Agency and preparing short reports of those data. They also include periodically reviewing whether there have been new aquatic nuisance species introductions into U.S. waters.

Subtask 7A: Support the Implementation of the Services Biological Opinion Recommendations

At the direction of the WAM, the contractor shall support analyzing NOI data, reported analytical data, specified invasive species databases, and other data sources as applicable to prepare short reports to be provided to NOAA and Fish and Wildlife. Additionally, EPA, in consultation with the Services, will develop a plan for how to approach the analyses of these data sources. These products will serve to document to the Services that EPA continues to engage with the regulated Universe, and that the permit issuance remains unlikely to jeopardize listed or threatened species.

Subtask 7A - Deliverables:

7A – 1.0 Draft Outline on how EPA will meet implementation obligations: The Contractor shall provide outline for the plan of how EPA will meet its obligations within 21 days of receiving technical direction from the WAM.

7A – 2.0 Draft Plan: The contractor shall provide EPA with a draft plan within 30 days of receiving comments on the outline and technical direction from the WAM.

7A – 3.0 Final Plan: The contractor shall provide EPA with a final plan within 21 days of receiving comments on the draft plan and technical direction from the WAM.

4A – 4.0 Analysis of NOI and other data submitted: Within 30 days of receiving technical direction from the WAM, the contractor shall prepare a short summary report of NOI data submitted that characterizes elements of the regulated Universe.

Task 8: Supporting Implementation of the VGP and sVGP and other Vessel Program Outreach for Great Lakes stakeholders

The Contractor shall support EPA with the development of materials for implementation and outreach of the VGP and sVGP. Additionally, the Contractor shall support EPA's development of outreach materials and efforts in support of its vessel program.

Subtask 8A: Contractor shall prepare technical materials such as 1-2 page factsheets and power point presentations on permit conditions internal as well as external stakeholder meetings or briefings for senior management. Contractor shall assume up to 10 short implementation fact sheets and implementation check lists. Some of those fact sheets may need to be translated into languages of the IMO (French, Spanish, Chinese, Russian, and/or Arabic).

Subtask 8A - Deliverables:

8A - 1.0 - Briefing Materials: Briefing materials due 5 days prior to the stakeholder meeting.

8A - 2.0 – Online Meeting Support: Meeting registration pages will be due 2 weeks before registration.

8A - 3.0 - Technical Memorandum and Fact Sheets: Up to 10 technical memoranda discussing common questions or other implementation issues on topics assigned by the EPA WAM via written technical direction.

8A- 4.0 - Develop Brochures: Up to 2 brochures for use on-line. Content and style will be assigned by the EPA WAM via written technical direction.

EPA United States Environmental Protection Agency Washington, DC 20460 Work Assignment						Work Assignment Number 1-54				
						<input type="checkbox"/> Other <input type="checkbox"/> Amendment Number:				
Contract Number EP-C-12-021			Contract Period 09/26/2012 To 09/25/2014 Base Option Period Number 1			Title of Work Assignment/SF Site Name CWT Study Technical Support				
Contractor EASTERN RESEARCH GROUP, INC.					Specify Section and paragraph of Contract SOW See PWS					
Purpose: <input checked="" type="checkbox"/> Work Assignment <input type="checkbox"/> Work Assignment Close-Out <input type="checkbox"/> Work Assignment Amendment <input type="checkbox"/> Incremental Funding <input type="checkbox"/> Work Plan Approval						Period of Performance From 03/25/2014 To 09/25/2014				
Comments:										
<div style="display: flex; justify-content: space-between;"> <input type="checkbox"/> Superfund Accounting and Appropriations Data <input checked="" type="checkbox"/> Non-Superfund </div>										
Note: To report additional accounting and appropriations data use EPA Form 1900-69A.										
SFO <input type="checkbox"/> (Max 2)										
Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1										
2										
3										
4										
5										
Authorized Work Assignment Ceiling										
Contract Period:		Cost/Fee:			LOE:					
09/26/2012 To 09/25/2014										
This Action:										
Total:										
Work Plan / Cost Estimate Approvals										
Contractor WP Dated:				Cost/Fee:			LOE:			
Cumulative Approved:				Cost/Fee:			LOE:			
Work Assignment Manager Name Jesse Pritts <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>							Branch/Mail Code: Phone Number 202-566-1038 FAX Number:			
Project Officer Name Meghan Hessenauer <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>							Branch/Mail Code: Phone Number: 202-566-1040 FAX Number:			
Other Agency Official Name <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>							Branch/Mail Code: Phone Number: FAX Number:			
Contracting Official Name Brad Heath <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>							Branch/Mail Code: Phone Number: 513-487-2352 FAX Number:			

**Performance Work Statement
Contract EP-C-12-021
Work Assignment 1-54**

Title: Centralized Waste Treatment Study Technical Support

Work Assignment Manager (WAM): Jesse Pritts

Alternate Work Assignment Manager: Lisa Biddle

Period of Performance (POP): March 25, 2014 through September 25, 2014

I- Purpose

The purpose of this work assignment is to support EPA's development of a study to evaluate the centralized waste treatment category, specifically facilities that manage wastewater from oil and gas extraction activities.

II- Introduction

This work assignment supports EPA's development of a study of management of wastewaters from oil and gas extraction activities by centralized waste treatment (CWT) facilities.

EPA currently regulates discharges from the CWT category pursuant to effluent limitations guidelines and standards (collectively referred to as ELGs) found at 40 CFR Part 437. Some of these facilities accept wastewaters from oil and gas extraction activities. However, the treatment technologies used by some CWT facilities are not amenable to treatment of pollutants that may be found in oil and gas wastewaters, such as total dissolved solids (TDS) and radioactivity.

EPA is developing a study to evaluate management of these wastewaters. The study will be used to inform potential future agency activities regarding management of these wastewaters.

III- General Work Assignment Requirements (PWS Section 3.0)

Deliverable Formatting and Terminology

Throughout this work assignment, the contractor shall provide draft and final reports to EPA in electronic format, with hard copy format also provided when directed by the work assignment manager. The contractor shall discuss the computer file formats to be used for word processing, spreadsheet, database and graphics with the EPA WAM prior to file preparation. The EPA WAM will identify for the contractor which documents will be posted on EPA's Effluent Guidelines webpage. These documents posted to the Effluent Guidelines webpage must be Section 508 compliant.¹

¹ See <http://www.epa.gov/epahome/accessibility.htm>.

Travel

Non-local travel by the contractor employees and/or subcontractors will be required to support the scope of this work assignment (e.g., conducting site visits and sampling). The contractor shall provide specific travel details and costs in a request for travel approval by the EPA WAM and the EPA Project Officer (PO) before each trip occurs (as specified by the contract per clause H.32).

Event Expenses Not to Exceed \$20,000

No single event under this Work Assignment is anticipated to exceed \$20,000. The Contractor shall immediately notify the EPA Contracting Officer, PO and WAM of any anticipated event involving support for a meeting, conference, workshop, symposium, retreat, seminar or training that may potentially incur \$20,000 or more in cost during performance. Conference expenses are all direct and indirect costs paid by the government and include any associated authorized travel and per diem expenses, room charges for official business, audiovisual use, light refreshments, registration fees, ground transportation and other expenses as defined by the Federal Travel Regulations. All outlays for conference preparation should be included, but the federal employee time for conference preparation should not be included. After notifying EPA of the potential to reach this threshold, the Contractor shall not proceed with the task(s) until authorized to do so by the Contracting Officer.

Confidential Business Information

The contractor shall, at all times, adhere to Confidential Business Information (CBI) procedures when handling industry information. The contractor shall manage all reports, documents, and other materials and all draft documents developed under this work assignment in accordance with the procedures set forth in the "Security Plan for Handling Confidential Business Information Under the Clean Water Act" (September 2002) or its successor approved plans.

Identification as Contracting Staff

To avoid the perception that contractor personnel are EPA employees, contractor personnel shall be clearly identified as independent contractors of EPA when participating in events with outside parties and visiting field sites. When speaking with the public the contractor should refer all interpretations of policy to the EPA WAM.

Limitation of Contractor Activities

The contractor shall submit drafts of all deliverables to the EPA WAM for review prior to submission of the final product. The contractor shall incorporate all EPA WAM comments into all final deliverables, unless otherwise agreed upon by the EPA WAM. The contractor will adhere to all applicable EPA management control procedures as implemented by the EPA Contracting Officer (CO), PO, and WAM.

Deliverable Due Dates

For the purpose of developing this work plan, the contractor shall assume the deliverable due dates in the tables for each task presented further. Major technical deliverables shall be subject to internal contractor peer review by an expert(s) not directly involved in the mainstream Work Assignment tasks. Deliverables will be prepared with proper adherence to EPA style and format requirements.

IV- Tasks

Task 1: Program Management

The contractor shall prepare and submit a detailed work plan that outlines the approach and methodology that shall be used to perform the tasks identified in this Work Assignment. The work plan shall specify the work to be done for each task, and the allocation of personnel, hours and budget by task and deliverables. The work plan shall be submitted to the EPA PO/WAM in accordance with contract requirements.

This task also includes contract management such as communications between EPA Contracting Officer Representatives and their respective contractor counterparts. These communications would concern the progress made on the work assignment tasks and coordination of activities to facilitate optimal contractor performance.

The contractor shall provide electronic copies of the monthly progress reports to the WAM and PO. Each progress report shall describe the technical work and expenditures for the same time period as the corresponding invoice. The reports shall list by task the amount of work completed and include a table of hours by personnel for each task. The reports also shall identify any problems or difficulties. The contractor shall inform the EPA CO, PO and WAM in writing when 50%, 75%, and 90% of the allocated hours or dollars have been expended.

TASK 1 DELIVERABLES	DEADLINES
Work Plan	In accordance with contract requirements
Progress Reports	monthly

Task 2: Technical Support for Preparation of Preliminary Data Summary of the Centralized Waste Treatment Industry

The contractor shall provide technical support to EPA in preparing a preliminary data summary (or study) of the CWT industry. The primary focus of this study is to evaluate current and future trends in the CWT industry with respect to treatment and management of wastewaters from oil and gas (O&G) extraction activities.

The recent increase in shale oil and shale gas extraction activities through practices such as hydraulic fracturing has created new challenges with respect to management of wastewaters. Flowback and produced waters from oil and gas extraction activities can contain a variety of

pollutants, notably high levels of TDS and, depending on the formation, naturally occurring radioactivity. In addition, additives such as friction reducers and biocides are frequently utilized during well development and can contribute to wastewater pollutant loads.

While many wastewaters are recycled and reused by producers, treatment and discharge is needed in certain cases. Where these wastewaters are being managed by treatment and discharge at CWT facilities, there is the potential of discharge of pollutants of concern to Waters of the U.S. Some CWT facilities that are accepting these wastewaters, or may potentially accept these wastewaters in the future, may not have advanced treatment in place that is amenable to removal of the pollutants of concern. In addition, treatment of these wastewaters may present unique challenges, such as disposal of concentrated brines or other treatment residuals. The study will evaluate the full spectrum of wastewater management practices at CWT facilities accepting oil and gas extraction wastewaters, including treatment and discharge, recycling, zero discharge, barrel-in/barrel-out, etc.

The goal of the study is to evaluate current trends in the CWT industry with respect to oil and gas extraction wastewater management and to estimate, to the extent feasible, future industry trends at CWT facilities resulting from current and predicted oil and gas extraction wastewater management practices. Specifically, the contractor will provide support to EPA in evaluating the following:

- Characterization of the CWT industry (number of facilities accepting or potentially accepting O&G wastewaters, types of treatment in place, quantities of wastewater being treated and discharged or otherwise managed (i.e., direct, indirect, zero), industry capacity, recycling and reuse opportunities, location and size of facilities, etc.)
- Current regulatory climate (state/local jurisdiction requirements/prohibitions, federal regulations, etc.)
- Treatment of oil and gas wastewaters (pollutants of concern, available treatment technologies and performance, costs, energy requirements, residuals management, pollutant transfer, etc.)
- Estimates of facility-specific and industry-wide pollutant discharges, to the extent feasible given limitations of data
- Estimates of costs to comply with alternative management practices

To obtain the necessary data for developing the study, EPA anticipates conducting site visits to a number of facilities (Task 5). EPA also anticipates using Clean Water Act § 308 authority to collect information and data, such as wastewater treatment practices and costs, from nine or fewer centralized waste treatment companies, and/or oil and gas operators. The contractor shall assist EPA with the technical aspects of these activities, such as developing lists of questions and compiling information received.

Other potential data sources that the contractor may utilize in developing the study include technical and scientific literature, commercial data sources, vendors, internet searches, and state regulatory agencies. In addition, data collected under Task 5 is expected to be a primary source of information regarding wastewater characteristics and treatability.

Under a separate effort, EPA will also be collecting information related to economic aspects of the industry as well as environmental impacts associated with discharges from this industry. The cost and performance information obtained by the contractor may be used as inputs for these analyses. The contractor shall therefore consult with EPA regarding use of data and information collected and generated in these corollary analyses, and provide support activities as directed.

The contractor shall maintain an index of all data, studies and information obtained and generated and shall deliver this index on a monthly basis.

The following sub-tasks describe the major chapters of the study.

2.1 Industry Profile

The contractor shall prepare a profile of the CWT industry. This profile shall summarize existing information that characterizes the number, type, size and location of CWT facilities and identify those that manage oil and gas wastewaters, type of treatment, whether the facility discharges to surface waters, is a zero discharge facility, recycles, etc. The profile shall estimate current wastewater generation and disposal volumes by the oil and gas extraction industry and estimate future CWT needs for management and disposal, to the extent feasible. The profile may be supplemented with information obtained from facilities, state oil and gas permitting and wastewater permitting agencies, commercial databases and EPA's data collection activities, as well as other data sources identified by EPA and the contractor.

2.2 Wastewater Characterization

The contractor shall prepare a detailed description of oil and gas wastewater characterization data. This shall summarize existing data that characterizes the pollutants present in these wastewaters as well as the volumes that are produced from different types of wells. Descriptions of existing regulatory programs addressing management of those wastewaters shall also be discussed.

2.3 Wastewater Management Practices

The contractor shall prepare a description of wastewater management practices at CWTs managing oil and gas wastewaters. This chapter shall describe treatability of wastewaters, the unit treatment processes, costs, technical feasibility, and other relevant factors, including solid waste generation and residuals management. Other relevant topics, such as transportation methods, shall also be discussed.

The following table contains the major deliverables and milestones under Task 2:

TASK	DELEVERABLE	DEADLINE
2.1	Outline of Industry Profile Chapter	April 11, 2014
	Industry Profile - Draft Chapter	July 11, 2014
	Industry Profile - Second Draft Chapter	September 5, 2014
2.2	Outline of Wastewater Characterization Chapter	March 28, 2014
	Wastewater Characterization - Draft Chapter	June 13, 2014
	Wastewater Characterization - Second Draft Chapter	August 15, 2014
	Wastewater Characterization - Update with available Task 5 data	September 19, 2014
2.3	Outline of Wastewater Management Practices Chapter	April 4, 2014
	Wastewater Management Practices - Draft Chapter	June 27, 2014
	Wastewater Management Practices - Second Draft Chapter	August 26, 2014

Task 3: Quality Assurance

EPA policy requires that an approved Quality Assurance Project Plan (QAPP) or Programmatic Quality Assurance Project Plan (PQAPP) be in place for work that involves the collection, generation, evaluation, analysis or use of primary environmental data. The QAPP or PQAPP defines and documents how specific data generation and collection activities shall be planned, implemented, and assessed during a particular project. This contract has an approved PQAPP for all necessary work envisioned under this work assignment.

Background

Quality Assurance Project Plans are required under the Agency's Quality Assurance Policy CIO-2105, formerly EPA Order 5360.1 A2 (May 2000), and implementing guidance CIO-2105-P-01-0 (May 2000). All projects that involve the generation, collection, analysis, and use of environmental data must have an approved Quality Assurance Project Plan (QAPP) in place prior to the commencement of the work. Examples of these environmental data operations are provided in **Table 3-1** below.

Table 3-1. Examples of work that involves the collection, generation, evaluation, analysis, or use of environmental data

Item	Examples
Data	Includes field sampling information (sample location information, flow measurements, temperature, pH, physical observations, etc.), laboratory measurements (e.g., chemical, physical, biological, radiological measurements), data collected from questionnaires, economic data, census data, and any other types of existing data (i.e., data generated for a different purpose or generated by a different organization)
Data generation	Includes field studies, laboratory studies, and generation of modeling output
Data collection	Includes field surveys, questionnaire surveys, literature searches, and third party data
Data evaluation	Includes data inspection, review, assessment, and validation
Data analysis	Includes statistical, engineering, and economic analysis, and testing, evaluation, and validation of methods and models; database creation, data extraction, and data manipulation
Data Use	Any use of data to support EPA decisions, regulations, policy, publications, or tools (including effluent guidelines, 304(m) program, standards, environmental assessments, and models, tools, or reports disseminated by EPA to assist other organizations in implementing environmental programs)

Note that QAPPs are required for the development or revision of models and software that support the generation, collection, evaluation, analysis, or use of data. (A model is set of equations and assumptions used to predict unknown data.) When existing models are used as a tool to generate or evaluate data, the project QAPP must describe the model and explain how it will be used and how its output will be evaluated to ensure the modeling effort meets the overall quality objectives for the project. Development or revision of new models also must be supported by a QAPP that describes the objectives for the model, the quality criteria that will be applied to the model, and the procedures for evaluating whether the model meets those criteria.

QA Project Plan Requirements

The Contractor has previously prepared a contract-wide Programmatic QAPP (PQAPP) for Contract EP-C-12-021. This PQAPP describes, in a single document, information that is not site or time-specific, but applies throughout the program (i.e., the duration of the contract). When tasked with preparing the PQAPP, the Contractor was informed that the PQAPP may need to be supplemented with project-specific details to support individual work assignments that involve the collection, generation, evaluation, analysis, or use of environmental data.

The activities in this work assignment involve gathering, evaluating, analyzing, and otherwise using existing environmental data (also known as “secondary” use of data). This work assignment also involves collection of new data, such as through field sampling and collection of data from companies through Clean Water Act (CWA) § 308 letters. EPA has determined that the Contractor is operating under the existing PQAPP and that the PQAPP addresses QA

requirements for a portion of this work assignment related to existing data collection, as well as collection of new data through CWA § 308 letters. The applicable sections of the PQAPP are sections 4, 5, 6, 7, 8, 9 and 10. The contractor shall be responsible for providing supplemental QA/QC information in sampling and analysis plans (SAPs) for new data collection activities described in the tasks below. In support of this work assignment, the Contractor shall ensure that the work plan provides enough detail to clearly describe:

- Specific objectives of the project(s) supported by this work assignment, including typical questions that must be answered when collecting and analyzing existing data to support the development of effluent guidelines industry studies, in this case, for the Centralized Waste Treatment industry.
- The type of data to be gathered or used under this work assignment to support the project objectives—including data from search engines, federal databases, EPA databases—as a well as a rationale for when those databases are appropriate and what data available in each will support the project
- The quality objectives needed to ensure the data will support the project objectives, and
- The QA/QC activities to be performed to ensure that any results obtained are documented and are of the type, quality, transparency, and reproducibility needed.

Table 3-2 at the end of this Task demonstrates the supplemental QA/QC information that must be included in SAPs for collection of new data.

Additional QA Documentation Required

The EPA Quality Manual for Environmental Programs (CIO 2105-P-01-0, May 2000) requires published Agency reports containing environmental data to be accompanied by a readily identifiable section or appendix that discusses the quality of the data and any limitations on the use of the data with respect to their originally intended application. The EPA Quality Manual further requires Agency reports to be reviewed by the QA manager (or other authorized official) before publication to ensure that an adequate discussion of QA and QC activities is included. The purpose of the review is to ensure the reports provide enough information to enable a knowledgeable reader to determine if the technical and quality goals were met for the intended use of the data. Reports should include applicable statements regarding the use of any environmental data presented as a caution about possible misuse of the data for other purposes. For example, a Technical Support Document or Study Report must include a clear discussion of the quality management strategies (including the project goals and objectives, quality objectives and criteria, and QA/QC practices) that were employed to control and document the quality of data generated and used. These documents should also discuss any deviations from procedures documented in the EPA-approved QAPP(s) supporting the project, the reasons for those deviations, any impact of those deviations had on data quality, and steps taken to mitigate data quality issues.

In support of this Agency requirement, all major deliverables (e.g., Reports) produced by the Contractor under this work assignment must include a discussion of the QA/QC activities that were performed to support the deliverable, and this discussion must provide a sufficient level of detail to allow the EAD QA Coordinator (or designee) to determine if the QA/QC strategies implemented for the project sufficiently support the intended use of the data. Upon receipt, the EPA WAM will

review each applicable report and certify whether the Contractor has adhered to the QA requirements documented in the Contractor's PQAPP.

The Contractor also shall provide EPA with monthly reports of QA activities performed during implementation of this work assignment. These monthly QA reports shall identify QA activities performed to support implementation of this work assignment, problems encountered, deviations from the QAPP, and corrective actions taken. If desired, the Contractor may include this as a part of the contract-required monthly financial/technical progress report.

TASK 3 DELIVERABLES	DEADLINES
Sampling Plan Supplemental QAPPs	21 days prior to SAP submission under Task 5
Final Sampling Plan Supplemental QAPPs	7 days after EPA feedback. Final Sampling Plan Supplemental QAPPs must be approved by EPA prior to collection of any samples under Task 5.
Monthly reports of QA work performed (may be included in the Contractor's monthly progress report)	Monthly

Table 3-2. QAPP Elements that Require Additional Explanation in a Supplemental QAPP for Primary Data Projects to be Submitted as Part of Sampling and Analysis Plans Under Task 5

QAPP Element	Sufficiently Addressed in PQAPP or Not Applicable to Project	Additional Detail Needed in SQAPP	Explanatory Comments Regarding Additional Detail Needed
A1. Title & Approval Sheet		X	SQAPP will require approval and signature
Project title		X	
Organization's name		X	
Effective date and/or version identifier		X	
Dated signature of Organization's project manager		X	
Dated signature of Organization's QA manager		X	
Other signatures, as needed (e.g., EAD Project Officer, EAD QA Coordinator)		X	
Revision History		X	
A2. Table of Contents		X	Update
Includes sections, figures, tables, references, and appendices		X	
Document control information indicated (when required by the EPA Project Manager and QA Manager)		X	

QAPP Element	Sufficiently Addressed in PQAPP or Not Applicable to Project	Additional Detail Needed in SQAPP	Explanatory Comments Regarding Additional Detail Needed
A3. Distribution List		X	Update
Includes all individuals who are to implement or otherwise receive the QAPP and identifies their organization		X	
A4. Project/Task Organization		X	Update to identify specific personnel and roles/responsibilities for Task 5. Include specific details, such as laboratory QA/QC personnel.
Identifies key individuals with their responsibilities (e.g., data users, decision makers, project QA manager, Subcontractors, etc.) and contact info.		X	
Organization chart shows lines of authority & reporting responsibilities		X	
Project QA manager position indicates independence from unit collecting/using data		X	
A5. Problem Definition/Background		X	Describe specific data collection goals of project to be obtained through field sampling.
Clearly states problem to be resolved, decision to be made, or hypothesis to be tested		X	
Identifies project objectives or goals		X	
Historical & background information		X	
Cites applicable technical, regulatory, or program-specific quality standards, criteria, or objectives		X	
A6. Project/Task Description		X	Describe specific sampling activities to be conducted, sample locations, analytes, QA/QC measures, etc.
List measurements to be made/data to obtain		X	
Notes special personnel or equipment requirements		X	
Provides work schedule		X	
A7. Quality Objectives & Criteria for Measurement Data		X	Describe specific quality and measurement objectives to be utilized
States quality objectives and limits, both qualitatively & quantitatively		X	
States & characterizes measurement quality objectives as to applicable action levels or criteria		X	
A8. Special Training Requirements/ Certifications		X	Describe any specific training or certification requirements needed and procedures for training
Identifies specialized skills, training or certification requirements		X	
Discusses how this training will be provided/the necessary skills will be assured and documented		X	

QAPP Element	Sufficiently Addressed in PQAPP or Not Applicable to Project	Additional Detail Needed in SQAPP	Explanatory Comments Regarding Additional Detail Needed
A9. Documents & Records		X	Describe what data will be generated, how data will be obtained/presented, how QA/QC measures will be documented, procedures for record keeping, etc.
Lists information & records to be included in data report (e.g., raw data, field logs, results of QC checks, problems encountered)		X	
Notes required project & QA records/reports		X	
Gives retention time and location for records and reports		X	
B1. Sampling Process Design (Experimental Design)		X	Fully document sampling design and factors such as matrix interferences due to TDS, analysis of radioactivity, sampling equipment, etc.
Types and number of samples required		X	
Sampling network design & rationale for design		X	
Sampling locations & frequency of sampling		X	
Sample matrices		X	
Classification of each measurement parameter as either critical or needed for information only		X	
Validation study information, for non-standard situations		X	
B2. Sampling Method Requirements		X	Fully describe analytical methods to be utilized, sampling techniques, equipment, etc.
Identifies sample collection procedures & methods		X	
Lists equipment needs		X	
Identifies support facilities		X	
Identifies individuals responsible for corrective action		X	
B3. Sample Handling & Custody Requirements		X	Fully document sample handling, preservation, shipping and COC
Notes sample handling requirements		X	
Notes chain of custody procedures, if required	X		
B4. Analytical Methods Requirements		X	Fully describe both field and laboratory methods to be utilized and specific requirements for laboratories utilized
Identifies analytical methods to be followed (with all options) & required equipment		X	
Specifies any specific method performance criteria		X	
States requested lab turnaround time		X	
Provides validation information for non-standard methods		X	
Identifies procedures to follow when failures occur		X	
Identifies individuals responsible for corrective action and appropriate documentation		X	

QAPP Element	Sufficiently Addressed in PQAPP or Not Applicable to Project	Additional Detail Needed in SQAPP	Explanatory Comments Regarding Additional Detail Needed
B5. Quality Control Requirements		X	Fully document QC procedures and goals for field and laboratory analyses
Identifies QC procedures & frequency for each sampling analysis, or measurement technique, as well as associated acceptance criteria and corrective action		X	
Procedures used to calculate QC statistics (e.g., precision, bias, accuracy)		X	
B6. Instrument/Equipment Testing, Inspection, and Maintenance Requirements		X	Fully document relevant requirements and procedures for both field analytes and laboratory analyses
Identifies acceptance testing of sampling and measurement systems		X	
Describes equipment needing maintenance and frequency for such maintenance		X	
Notes availability & location of spare parts		X	
B7. Instrument Calibration & Frequency		X	Include for field instruments
Identifies equipment needing calibration and frequency for such calibration		X	
Notes required calibration standards and/or equipment		X	
Cites calibration records & manner traceable to equipment		X	
B8. Inspection/Acceptance Requirements for Supplies & Consumables		X	Document relevant criteria
States acceptance criteria for supplies & consumables		X	
Notes responsible individuals		X	
B9. Data Acquisition Requirements for Non-Direct Measurements	X		
Identifies type of data needed from non-measurement sources (e.g., computer databases and literature files), along with acceptance criteria for their use			
Describes any limitations of such data			
B10. Data Management		X	Update to consider laboratory/field collected data
Describes standard record keeping & data storage and retrieval requirements	X		
Checklist or standard forms attached to QAPP		X	
Describes data handling equipment & procedures used to process, compile and analyze data (e.g., required computer hardware & software)	X		
C1. Assessment and Response Actions		X	Update to consider laboratory/field collected data
Lists required number, frequency, & type of assessments, with approximate date & names of responsible personnel		X	
Identifies individuals responsible for corrective actions		X	
C2. Reports to Management		X	Update to consider laboratory/field collected data
Identifies the preparer and recipients of reports			

QAPP Element	Sufficiently Addressed in PQAPP or Not Applicable to Project	Additional Detail Needed in SQAPP	Explanatory Comments Regarding Additional Detail Needed
Identifies frequency and distribution of reports for:			
• Project status			
• Results of performance evaluations & audits			
• Results of periodic data quality assessments			
• Any significant QA problems			
D1. Data Review, Verification & Validation		X	Update to consider laboratory/field collected data
States criteria for accepting, rejecting, or qualifying data			
Includes project-specific calculations or algorithms			
D2. Verification & Validation Methods		X	Update to consider laboratory/field collected data
Describes process for data verification and validation			
Identifies issue resolution procedure and responsible individuals			
Identifies method for conveying these results to data users			
D3. Reconciliation with User Requirements		X	Update to consider laboratory/field collected data
Describes process for reconciling with DQOs and reporting limitations on use of data			

Task 4: General Technical Support

Using information provided by the WAM, along with information gathered or developed by the contractor, the contractor shall assemble information, create and/or modify documents and perform analyses related to centralized waste treatment facilities as directed by the WAM through written technical direction. The tasks may include work such as:

- Summarizing data to brief management
- Collecting and analyzing secondary data
- Attending meetings or preparing materials and participating in meetings, conferences and workshops to support EPA's outreach activities to the public and industry (these materials may include reports, brochures, maps, or other presentation materials)
- Attending centralized waste treatment industry technical meetings and/or conferences as directed by EPA
- Contacting state agencies to collect information about common wastewater management practices and availability of waste water treatment facilities for oil and gas extraction wastewaters

For purposes of preparing a work plan, the contractor shall assume that there shall be approximately ten written technical directives requiring quick turn-around and the contractor will be asked to attend two conferences.

TASK 4: DELIVERABLES	DEADLINES
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General technical support (as above)	2 days after receiving technical direction, or as specified in technical direction, from the WAM
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Task 5: Site Visits, Sampling and Field Analysis

5.1 Site Visits

The contractor shall provide support to EPA in conducting site visits at CWT facilities that accept oil and gas extraction wastewaters. Support shall include identifying candidate facilities that accept oil and gas wastewaters, scheduling conference calls with facility personnel to obtain detailed facility information and to schedule visits, obtaining operational information from facilities (treatment technologies in place, facility size and flow rates, existing monitoring data, etc.), drafting site visit reports and conducting follow-up activities. The contractor shall attend site visits in order to obtain, evaluate and document facility information and to assist EPA in identifying facilities that may be candidates for subsequent sampling activities. For purposes of preparing a cost estimate, the contractor shall assume that ten (10) one-day site visits will be conducted to facilities across the U.S. during this work assignment period of performance. The contractor shall prepare draft and final site visit reports as indicated in the Task 5 Deliverables Table below. Site visit reports shall include detailed documentation of information obtained during the site visits.

5.2 Characterization Sampling

The contractor shall provide support to EPA in conducting wastewater characterization sampling activities at CWT facilities that accept oil and gas extraction wastewaters. The contractor shall assist EPA in identifying candidate facilities for sampling. Characterization sampling activities may be conducted concurrently with site visits under Task 5.1, or may be conducted separately. EPA anticipates that characterization sampling under Task 5.2 will consist primarily of one-time grab sampling for characterization purposes. These characterization samples will have the following purposes:

- Characterize untreated wastewater characteristics for wastewaters produced from oil and gas extraction operations that are received at CWT facilities
- Characterize treated effluent characteristics for determining facility effectiveness in removing target pollutants
- Characterize wastewater characteristics at intermediate treatment points to determine unit process effectiveness in removing target pollutants
- Characterize treatment residuals and discharges from other ancillary activities

Sample analyses may include, but not be limited to: total dissolved solids and ions, conventional pollutants, classicals, volatile organics, semi-volatile organics, metals, glycols, and radiological parameters in both aqueous (untreated wastewater, treated wastewater), solid (e.g., residuals) and mixed matrices. The final list of analytes and analytical methods shall be prepared in consultation with the EPA WAM.

For purposes of preparing a work plan, the contractor shall assume that six (6) one-day characterization sampling episodes shall be conducted during the period of performance of this

work assignment. The contractor shall assume two contractors shall participate in characterization site visits and site visits shall take place in Pennsylvania, Texas, North Dakota, Colorado, Ohio, and Arkansas. A total of four sample points are anticipated at each of the six locations to be sampled. Additional samples for quality assurance (such as duplicate and trip blank, field blank, matrix spike, etc.) samples shall also be collected, as specified in individual Sampling and Analysis Plans (SAPs) for each location.

The contractor shall provide all sampling equipment, materials (such as sampling bottles), supplies and consumables (such as ice) necessary to conduct the sampling, preserve samples and to package and ship the samples to laboratories. The contractor shall also be responsible for freight/shipment and tracking of samples to analytical laboratories and maintaining documentation (such as traffic reports).

Under a previous work assignment (0-38), the contractor developed a draft sampling and analysis plan for conducting sampling to characterize SGE wastewater. As the pollutants of concern with SGE wastewaters are expected to be the same or similar to the pollutants of concern at CWTs accepting oil and gas extraction wastewaters, much of the work completed for developing the SGE sampling plan is wholly applicable and transferrable to this WA with the addition of information and QA/QC measures specific to sampling of wastewaters and residuals at CWT facilities and treatment technology performance evaluations. Under this task, the contractor shall revise the draft SGE sampling and analysis plan to be specific to sampling at centralized waste treatment facilities that accept wastewaters from oil and gas extraction facilities. The contractor shall prepare draft and final SAPs and health and safety plans for characterization sample collection, including preparation of supplemental sampling QAPPs covering data collection activities that are not addressed in the existing PQAPP, according to the Task 5 Deliverables Table below.

Laboratory Services

The contractor shall provide technical support to EPA in acquiring laboratory services to analyze the samples for parameters of interest. In obtaining laboratory services, the contractor shall ensure that the laboratory(ies) demonstrates sufficient recent experience and qualifications for analyzing oil and gas wastewater samples (or samples with similar matrices) and that laboratory services comply with EPA's *Policy to Assure Competency of Laboratories, Field Sampling, and Other Organizations Generating Environment Measurement Data under Agency-Funded Acquisitions (FEM-2011-01)*. These wastewaters have unique characteristics and complex matrices. Total dissolved solids (TDS) concentrations in samples can exceed 120,000 mg/L according to available data. Laboratories shall also have experience in analyzing radionuclides expected to be present in these samples. These high levels of chlorides and other dissolved solids can pose significant challenges to laboratory analysts. As a result, the contractor shall consult with EPA regarding appropriate analytical methods and sample collection, handling, preparation and preservation and coordinate with laboratories in advance of sample collection in order to ensure that methods selected for analysis of samples and the laboratories obtained are capable of detecting parameters at the concentrations expected.

The analyte list for wastewater samples shall be the same as the analyte list contained in the SGE draft SAP prepared under a separate WA, with adjustments developed through consultation with the EPA WAM, including the following:

Parameter
Total Suspended Solids (TSS)
Total Dissolved Solids (TDS)
Specific Conductance
Alkalinity
Anions (bromide, chloride, fluoride, and sulfate)
Biochemical Oxygen Demand (BOD ₅)
Chemical Oxygen Demand (COD)
Total Organic Carbon (TOC)
HEM/SGT-HEM
Total Hardness
200.8 Metals: aluminum, antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, manganese, molybdenum, nickel, selenium, silver, thallium, vanadium, uranium, thorium, zinc
200.7 Metals: boron, calcium, iron, magnesium, strontium, sodium, tin, titanium
Mercury
Total Radium (226, and 228)

In addition, field analysis of parameters such as temperature, pH and conductivity may be required.

The contractor shall review available data that has been compiled by EPA regarding the expected level of these parameters in these wastewaters and consult with the EPA WAM regarding analytical methods and detection levels for the pollutants of interest, to the extent that this differs from what was previously developed. In addition, the contractor may recommend additional parameters based on review of existing data regarding these wastewater characteristics. Adjustments to analytes and methods must be reflected in the SAP supplemental QAPP.

The contractor shall ensure that the laboratories report results in a similar manner for all episodes, including the reporting of results for metals that are below the report limit but above the method detection limit (e.g., J-values). The contractor shall consult with EPA regarding time frames for laboratories to submit analytical results prior to selection of laboratory services.

In addition, the contractor shall coordinate with laboratories to ensure timely and efficient analysis of the collected wastewater samples; perform data quality reviews and resolve issues that may arise from those reviews; and evaluate pollutant characteristics and treatment efficacy. The contractor shall prepare and maintain a Sample Tracking Report that shall include a summary of any problems identified and the status of efforts to resolve the problems. The contractor shall consult with the EPA WAM when any laboratory or data quality issues arise in order to address these issues in a timely fashion. The contractor shall compile the laboratory results in a format approved by EPA and as described in the laboratory competency policy.

The services to be performed under this task are strictly limited to those of a technical and scientific nature, encompassing the tasks of collecting samples, acquiring laboratory services, including tracking the location and status of collected samples throughout the entire analytical and data reporting process. The contractor shall also coordinate with laboratories to ensure timely and efficient analysis of the collected wastewater samples; resolve issues that may arise during sample analysis or during QA/QC reviews of laboratory results; and provide technical support to EPA regarding analytical methods, data review, quality assurance, and the effluent guidelines sampling program.

Documentation

Sampling Plans and Sampling Episode Reports

Each characterization sampling episode shall require the development of a site-specific sampling and analysis plan (SAP) and a site-specific health and safety (H&S) plan, if feasible. Draft and final SAPs shall be developed according to the schedule of deliverables table below. The SAPs shall provide detailed descriptions on the locations to be sampled, the parameters to be sampled, the sample collection and preservation techniques to be utilized, sample labeling and tracking protocols, and other information and protocols as necessary to assure the successful collection, handling, preservation, shipping and tracking of samples. The SAPs shall also contain detailed information on field parameters to be measured and collection of operational details regarding the facilities sampled (e.g., flow rates, etc.). The SAPs shall also include a discussion of the data review procedures used to assure the quality of the data collected.

For facilities where site visits have been conducted in advance of any characterization sampling, much of the facility-specific information (e.g., sampling locations, number of sample points, equipment needed, etc.) required to prepare SAPs and H&S plans will have been obtained in advance during site visits. EPA anticipates that for some facilities, characterization sampling may be conducted at the same time as site visits, and that the contractor or EPA will not have conducted a previous visit. In these cases, facility-specific information necessary to prepare SAPs and H&S plans will be obtained through discussions with facility personnel. In these cases, it may be preferable to prepare a generic SAPs and H&S plan that will facilitate collection of samples. Specific details on SAPs and H&S plans shall be developed for each characterization sampling episode through consultation with the EPA WAM.

At the completion of each sampling episode, the contractor shall develop a draft sampling episode report (SER) that documents the sampling conducted and any deviations from the SAP. As sampling results are available, the contractor shall compile the data into data result tables for use in the final draft SERs.

Sample Tracking Report

The contractor shall create and maintain information files which contain the status of all samples collected, including sample collection date, date of sample receipt at the laboratory, date laboratory analytical data is received, status of data quality reviews, and projected timeframes for

completing reviews of data. The report shall also identify any anticipated problems or difficulties that might result in scheduling delays. This information shall be provided monthly until all samples collected by EPA have been analyzed and the database of laboratory results is complete.

5.3. General Technical Support

If necessary, the contractor shall provide general technical support to EPA regarding analytical methods, data review, quality assurance and the effluent guidelines sampling program. During the period of performance, the contractor may have to respond to approximately 3-5 technical support inquiries. The following are activities the contractor may have to perform:

- Provide the EPA WAM with technical responses to analytical method and data inquiries;
- Research solutions to analytical problems;
- Conduct literature searches;
- Fill document requests;
- Provide the raw laboratory data and information related to data review; and
- Track the status and disposition of technical inquiries.

TASK 5 SCHEDULE OF DELIVERABLES

TASK	DELIVERABLE	DEADLINE
5.1	Draft Site Visit Report	14 Days after completion of site visit
	Final Site Visit Report	14 Days after receipt of comments from EPA
5.2	Draft SAPs and H&SP - facilities with prior site visit	21 days prior to sampling episode
	Final SAPs and H&SP - facilities with prior site visit	7 days after receiving EPA comments on the draft sampling plan
	Draft Generic SAP and H&SP - facilities without prior site visit	21 days prior to sampling episode
	Final Generic SAP and H&SP - facilities without prior site visit	7 days after receiving EPA comments on the draft sampling plan
	Draft SER (without data)	14 days after completing the sampling episode
	Revised SER	7 days after receiving EPA comments
	Final SER (with data)	7 days after final QC data is available

	Database of laboratory analytical results	September 25, 2014
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Task 6: Management of Confidential Business Information

During the course of the work assignment, the contractor shall be accessing and evaluating CBI. As such, the contractor shall adhere to EPA's CBI policy and procedures as described in the contract performance work statement, Section 3.0, for all tasks in this WA, as applicable. The contractor shall obtain CBI security clearance to use CBI information as outlined in Section 3.0 of Contract EP-C-12-021. The contractor shall utilize CBI information in accordance with contract requirements and limitations to include using its most recent "Security Plan for Handling Confidential Business Information under the Clean Water Act." The contractor shall also utilize CBI information in accordance with contract requirements and limitations, including the TSCA CBI security plan as required.

TASK 6 DELIVERABLES	DEADLINES
A CBI program in compliance with the requirements of contract EP-C-12-021 and the requirements of the contractor's CBI Plan.	Ongoing

EPA United States Environmental Protection Agency Washington, DC 20460 Work Assignment						Work Assignment Number 1-54				
						<input type="checkbox"/> Other <input type="checkbox"/> Amendment Number:				
Contract Number EP-C-12-021			Contract Period 09/26/2012 To 09/25/2014 Base Option Period Number 1			Title of Work Assignment/SF Site Name CWT Study Technical Support				
Contractor EASTERN RESEARCH GROUP, INC.					Specify Section and paragraph of Contract SOW See PWS					
Purpose: <input checked="" type="checkbox"/> Work Assignment <input type="checkbox"/> Work Assignment Close-Out <input type="checkbox"/> Work Assignment Amendment <input type="checkbox"/> Incremental Funding <input checked="" type="checkbox"/> Work Plan Approval						Period of Performance From 03/25/2014 To 09/25/2014				
Comments:										
<div style="display: flex; justify-content: space-between;"> <input type="checkbox"/> Superfund Accounting and Appropriations Data <input checked="" type="checkbox"/> Non-Superfund </div>										
Note: To report additional accounting and appropriations data use EPA Form 1900-69A.										
SFO <input type="checkbox"/> (Max 2)										
Line	DCN (Max 6)	Budget/FY (Max 4)	Appropriation Code (Max 6)	Budget Org/Code (Max 7)	Program Element (Max 9)	Object Class (Max 4)	Amount (Dollars)	(Cents)	Site/Project (Max 8)	Cost Org/Code (Max 7)
1										
2										
3										
4										
5										
Authorized Work Assignment Ceiling										
Contract Period:		Cost/Fee: \$0.00				LOE: 0				
09/26/2012 To 09/25/2014										
This Action:		\$339,142.00				2,927				
Total:		\$339,142.00				2,927				
Work Plan / Cost Estimate Approvals										
Contractor WP Dated: 04/22/2014		Cost/Fee: \$339,142.00				LOE: 2,927				
Cumulative Approved:		Cost/Fee: \$339,142.00				LOE: 2,927				
Work Assignment Manager Name Jesse Pritts <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>						Branch/Mail Code: Phone Number 202-566-1038 FAX Number:				
Project Officer Name Meghan Hessenauer <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>						Branch/Mail Code: Phone Number: 202-566-1040 FAX Number:				
Other Agency Official Name <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>						Branch/Mail Code: Phone Number: FAX Number:				
Contracting Official Name Brad Heath <div style="display: flex; justify-content: space-between;"> <div>_____ (Signature)</div> <div>_____ (Date)</div> </div>						Branch/Mail Code: Phone Number: 513-487-2352 FAX Number:				